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ON MEDIA DELUSIONS AND IVAN SANDERSON: TWO REVIEWS

BY JEROME CLARK

Robert E. Bartholomew and Hilary Evans, Panic Attacks: Media Manipulation and Mass Delusion. Stroud, Gloucestershire, England: Sutton Publishing, 2004. 222p.

PANIC
ATTACKS
THE
HISTORY
OF MASS
DELUSION

Panic Attacks did me a favor. As I was reading it, I realized that while long ago I'd read Howard Koch's script for Orson Welles's notorious Mercury Theater presentation of The War of the Worlds, I had never actually heard the broadcast itself. So I put the book down midway through Chapter Three ("The War of the Worlds Spooks a Nation: How It Happened"). found a tape of the show, and listened to it. Knowing perfectly well that it was no more than science fiction, in the dark of a December late afternoon I still felt chills. Possibly because it is radio and you have to imagine the (obviously unreal) events yourself, it's a whole lot scarier than you'd think. Himself a genius, Welles was working with a spectacularly talented theatrical company, and all concerned knew exactly how to put a story over the radio. The effect is to make one reflect on the power of media-in the good sense-and not as purveyor of "manipulation and mass delusion.

ROBERT BARTHOLOMEW HILARY EVANY

In the early 21st century we seldom think about media in any positive way. I learned to detest our media in the run-up to the Iraq war, during which even the putatively best news services (the New York Times and CNN, for two particularly infuriating examples) chose to conduct them-

selves as if they were state-run media, doing nothing to stem tidal waves of official mendacity and hysteria-mongering. The bold-faced lies and manufactured paranoia led, as could have been predicted (and was predicted by some, whose patriotism was of course furiously assailed), to disaster, quagmire. and tens of thousands of needless deaths and injuries, with no end in sight. Robert Bartholomew and Hilary Evans have a few choice words to say on this particularly fatal instance of manipulation and delusion, but mostly the book deals with media hoaxes, misrepresentation, and irresponsibility of sorts that are largely or entirely innocuous by comparison.

"The Great Moon Hoax of 1835," the subject of the first chapter, was a yarn cooked up by the New York Sun to sell newspapers to an untapped audience, ordinary working people. While we all can agree that newspapers ought to print hard news and not colorful fantasy, anyone who believed reports of bat- and beaver-people on the moon surely deserved to (and was just as surely entertained for his or her efforts) and probably learned a needed lesson-that something isn't necessarily true just because it's in print-in the end. And as far as we know, no panic attacks resulted. In any case, belief in an inhabited moon in 1835 had nothing on the even more widespread belief-aided and abetted by the media of the early 19th century-that African Americans, being an inferior race, could live and die in bondage and no white citizen need give it a second thought.

The most harmful matter Bartholomew and Evans chronicle is the epidemic of phony sex-molestation charges which made headlines in the 1980s. The culprits here, though, seem less media than quack psychotherapists, who peddled pseudoscience about "repressed memories" of incest, and goggle-eyed fundamentalists, who promoted belief in "satanic ritual abuse" (SRA), predicated on the staggeringly improbable notion that America houses a vast network of closet devil-worshipping, murderous sex fiends. The authors point to the obvious parallel of witch scares in centuries past but don't remark on one disturbing possibility, which occurred at least to this reader: If you can get millions of people to believe (with no evidence to speak of) in a vast Scratch-obsessed underground, couldn't you get them to believe that people who hold social and political views uncongenial to the Christian right are witches-literally? If (as recent polling suggests) 45% of our fellow citizens are of the opinion that Homo sapiens was magically brought into existence in its present form less than 10,000 years ago, surely you could get people to believe anything.

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It would be naïve indeed to blame all this on "media manipulation," though "mass delusion" certainly is an apt characterization of this lamentable, though so far hypothetical, prospect.

Bartholomew and Evans sometimes come across as a trifle hyperbolic in their attacks on what is typically less media manipulation than just plain, old-fashioned bad journalism. Nonetheless they are, on the whole, clear thinkers and lucid writers (notwithstanding the unexpected, unwelcome appearance of the nonword "orientated" on page 87), and their judgments are nearly always balanced. Their book, in other words, is mercifully devoid of CSICOP-style hyperventilation, and their prose is happily jargon-free. UFO matters, on which the authors have written at length elsewhere, are mentioned very briefly, and then only in passing and in a reasonable context.

Most of their case studies will be familiar to informed readers, but a few were new to me, most interestingly the one in Chapter Nine, where the authors show how journalists' ethnocentrism and unconscious racism caused them to conjure up, for the amusement of "civilized" readers, a nonexistent cult of Lyndon B. Johnson worshippers on a remote South Pacific island.

All in all, Panic Attacks is a solid popular guide to the subject, never less than entertaining and readable.

Ivan T. Sanderson and Robert Gribble, Vols. 1 and 2. Albuquerque, N.Mex.: Faded Discs. Available from Wendy Connors, Box 8552, Albuquerque, NM 87198.

Wendy Connors's Faded Disc Project is unique in preserving the sounds of UFO history: interviews, radio shows, lectures, private chitchats. If you love ufology's history and miss-as those of us with a few miles on us are wont to do the old days, otherwise known as the Golden Age, you'll want to have all of them. So far 10 have been issued, all on compact discs. Nine and 10, from the collection of longtime ufologist Robert Gribble, document a 1960 [AD] lecture Ivan T. Sanderson (1911-1973) gave in, I believe, Seattle. Between them, running time is approximately two and a half hours.

Though only those of us with long memories are likely to recall Sanderson, he was once a ubiquitous figure in UFO and Fortean circles. He was also something of a television star, a regular on such popular programs as Dave Garroway's Today Show and Garry Moore's evening variety show. To the larger public he was known as an explorer and authority on animals, especially mammals, specimens of which he would drag on stage for the wonderment and amusement of the 1950s American viewing audience. He was a tall, striking-looking man with a charming British accent and a witty. articulate, supremely assured way of putting things. He was, in short, the perfect guest.

To a smaller, more focused audience he was famous for

more exotic interests. He pioneered cryptozoology before the discipline had a name. As early as 1948, in a Saturday Evening Post article, he declared his conviction that dinosaurs survive in remote regions of the earth. Exposed to Charles Fort at an early age, he paid attention to flying saucers when they emerged on the world scene. Twenty years later, he wrote a not very good book on the subject, Uninvited Visitors, and followed it up with an outright crazy book, Invisible Residents (1970), which advances the argument that the earth's oceans harbor hidden beings with an advanced technology, including UFOs. I believe it was in the latter book that he wrote the funniest phrase I've ever seen in a UFO book, when he suggested that other intelligences "OINTS" in Sandersonese-may be "overcivilized and quite mad."

One could say the same of Sanderson, whose erudition was often in service to ideas that were as often as not borderline lunatic, though he had the occasional lucid moment. I never met him, though I talked with him on the phone one day in December 1967 while I was visiting John Keel, an eccentric of markedly less sunny disposition, in his Manhattan apartment. Persons who knew Sanderson personally loved him and thought him the greatest of raconteurs. These two discs preserve Sanderson in full, delightful form, answering questions, chatting, speculating, gossiping, and clearly enjoying his audience and himself in equal measure.

With Sanderson, who never let strict factual accuracy get in the way of a good story (Isabel Davis, who knew him well and liked him, privately deemed him an amiable child). it's never wise to believe anything without a second. more reliable source. But the stories are entertaining and occasionally illuminating. On the first disc I especially enjoyed the yarns, alternately colorful and tragic, of New Jersey contactee and Sanderson friend Howard Menger. Sanderson chatters on about Sasquatch, then an obscure presence in North America's popular culture, as well as werewolves. official UFO secrets, and more.

On the second disc he is full of dark warnings about "Communist influences" on the contactee movement, practically accusing George Van Tassel of being a Soviet agent. Most contactees, he says, are merely "idiots," but a few are "dangerous characters" pushing subversive ban-the-bomb and "love thy brother" doctrines. Less silly and more attention-inviting are his observations on 1950s UFO author Morris K. Jessup's last months. He insists, as do others familiar with the circumstances, that Jessup's suicide, conspiratorial speculations notwithstanding, owed to personal problems unrelated to ufology. But Sanderson confuses The Case for the UFO-the book that crackpot Carl Allen marked
up in the persona of three Spanish Gypsies-with the later UFO and the Bible.

Sanderson is not the only one speaking. So are members of Gribble's group, with voices sometimes piling on top of each other as they talk or argue with one another as Sanderson is holding forth. Sometimes you have to struggle to hear what's being said. It's all, or mostly, good stuff, a window into the lost world of ufology when UFOs were fresh and startling revelations seemed just over the horizon.
IUR SUMMER 2004

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Yet, today this is totally forgotten. And whatever information that still survives about Ivan is scattered and
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REPORT FROM THE READERS
ment of my article, "That Forgotten Monster, Old Three-Toes" (December, 1967, FATE). Your artist, the dear boy, must have read the manuscript backwards or something. The illustration looks like a rhino. Why? The manuscript describes Old Three-Toes as shown in the enclosed sketch, according to witnesses, while Lilius' thing was described as like a Ceratosaurus, which looks like an ostrich without feathers, has a long lizard-like tail and a small upright midnose horn.
Could you possibly print some "retraction" or whatever it's called on an illustration? - Ivan T. Sanderson, Blairstown, N.J.
THE SEARCH
I would like to find persons who can look at a map (a road map, one printed in an atlas or almost any type of map) and by marking a spot on the map tell where an article has been lost or hidden.
In past years I have read of persons with this ability and I am hoping that among your readers I may find one Armen Gamperling, Berkeley, Calif.

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Jahan Kezada
UNLUCKY?
133
Not sure which way
to turn or
what to do?
Send for my PER-
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DR. BASIL. MILLS
90 Roseford Rd., Cambridge, England

the Durham area in parapsychology. I was founder and first president of the North Carolina Parapsychology Society. Through the years I have experienced many marvelous things.
Some months ago when Bishop Pike released to the press his experience in contacting his deceased son (See FATE, February, 1967) Dr. J. B. Rhine here in Durham rushed into print stating his usual negative opinion on Bishop Pike's experience.
Since I am connected with a local radio station I suggested to our news director that he interview Dr. Rhine on the subject of personality survival. It is a subject dear to my own heart. The interview took place on a Friday while I was away from the radio station. When I returned I asked the news director to play the tape recording of his interview with Dr. Rhine. Imagine his amazement to find the tape blank! Such a thing never before has happened to him and he is a very competent reporter. The weekly newscast was set for Sunday so he called Dr. Rhine to see if he would grant him another interview. This was not possible but Dr. Rhine sent in his stead his wife Dr. Louisa E. Rhine to the station on Saturday morning.
I sat in my office about 75 feet away from the control room while our news director taped his 30-minute interview was Mrs. Rhine. As soon as she left I asked to hear her tape. Again to the news director's consternation only 12 minutes of the interview was on the tape. Mysteri

ously, her negative attitude on personality survival simply had not recorded. What was on the tape was played over the air on Sunday. Was I responsible? Am I unconsciously a poltergeist?-Dr. C. K Rand, Durham, N.C.

SILLY OLD THREE-TOES

I am quite distressed to see the illustration used with the first install-

ment of my article, "That Forgotten Monster, Old Three-Toes" (December, 1967, FATE). Your artist, the dear boy, must have read the manuscript backwards or something. The illustration looks like a rhino. Why?

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WPEN, Philadelphia, at which time she had already conceived of the Land of the Lost as a story but not as a radio program. She was one of the first women newscasters and covered the Hauptmann case and the Democratic National Convention in 1996. She billed herself as "the petticoat on the air.'

In 1939 she hit the jackpot with a program called Morning Market Basket, which she is still doing six days a week, three on CBS (Tuesdays, Thursdays, Saturdays, 9:45-10 a.m. EWT) and three on Blue (Mondays, Wednesdays, Fridays. 10-10:15 a.m. EWT). This program is all a housewife needs to listen to: Miss Hewson gives market reports, recipes, menus, household hints, and even a story to tell at dinner time.

SCIENCE

Mechanical Ant

Slick-walled holes, 20 feet across and thousands of feet deep, can be drilled through the earth's solid rock crust with a mechanical ant, which for the first time lets miners sink large shafts without explosives. The new rock-chewing monster, most revolutionary of recent mining innovations, was described last week by Andrew R. Boone, Los Angeles science writer. It was J. B. Newsom, onetime quarrier of Indiana limestone who later taught mining engineering at Stanford University. who evolved the technique of boring shafts by cutting out a succession of solid rock cores weighing 30 tons each. With his first experimental machine the inventor sank a 5-foot shaft 1.125 feet into the workings of the Idaho-Maryland gold mine in Grass Valley. Calif. Completing a more voracious "ant." he next bored a 52-foot hole through 1,206 feet of hard rock to the fourteenth level of the Zenith iron mine in Minnesota. The same machine, now 1,100 feet down, last week was busily gobbling out a 3,000-foot hole at the Cary iron mine, Hurley, Wis.

Unlike orthodox core drills which are powered by an extension shaft leading to an engine on the surface, Newsom's matchine carries its power with it. His drill consists of two parts, a cylindrical compartment housing an electric motor, and the corer (operating it is a bit like revolving a biscuit cutter in a cake of soup) which is connected to the motor by a short steel shaft and gears. Iron shot pellets in the teeth of the barrel-like corer serve as the actual cutting tool as the corer spins at 52 revolutions per minute.

Guinea Gargantua

A pathos-packed story of a gargantuan guinea pig (200 pounds and 2 feet high at the shoulder) which for years served her aged blind master faithfully and efficiently in the role of a seeing-eye dog is told in the current Nature Magazine by

Ivan T. Sanderson, explorer and author. The odd animal was a capybara, a member of the guinea-pig family-so large that

at first glance it was as startling as a house cat the size of a horse.
Rima, as Sanderson's household staff soon named her, had guided her charge unfalteringly about a little village in Surinam (Dutch Guiana) and back and forth "along the winding jungle trails to the river bank where he boarded the launch to come to the market town. predicting accurately and unfailingly with her rodent brain
Courtesy Nature Magazine
A giant guinea was his seeing eye his every movement, searching out with her lustrous eyes and sensitive nose the safe path that he should tread."
When the old man thought he was soon to die he prevailed upon Sanderson to buy Rima and care for her. "Capybaras," Sanderson writes, "are tailless and have bodies not unlike well-fed pigs, clothed in short. coarse, reddish-brown hair. The face of a capybara.. is a mixture of guinea pig. horse, and lioness. The muzzle is square and raised haughtily like a caricature of a pompous elderly duchess."
Not unnaturally the natives used to stare when they saw Sanderson driving about in an ancient Rolls-Royce accompanied by a guinea pig seemingly larger than himself. The explorer's tribute: "I have never since felt a bond of friendship so close to any other living creature ... With the aloofness and independence of a cat, and the devotion and faithfulness of a dog, she combined the clear thinking of an able lawyer and the economy of a water turbine.
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The Garilla
Actual Brother of Man? 27 March 1938
Amartian Weebly Magazine San Francias Examiner, Calif
If Banderson's theory survives the attacks it must face, it will mean that there is no "missing link" between modern man in his airplane and the hairy giant of the anthropoids, for they are both to be considered as humans or to have once been subhumans together. The missing link then would be a fossil linking the ancestors of the chimpanzee and other unquestioned apes on one alde, with the ancestors of modern man and the gorilla on the other.
At a time so remote that perhaps it will never be known, some urgent reason moved a number of African Samsons to leave the local Philistines on the lowlands where life was comparatively easy and take to the mountain fastnesses.
If stone-age Delilahs were sent after them, they must have failed because, according to the Sanderson theory, these rugged Individuals not only grew hairier but bigger and stronger, while the men of the lowlands remained puny and hairless. possibly originating the almost universal ancient belief, exemplified in the Samson story, that hairiness and muscular strength go together.
These mountain Samsons who could have carried away the gates of a city or performed any of the Biblical strong man's feats with one hand, fell behind the plainsmen In communication, weapons and all the other tricks which can only be developed when men live together in communities, even though most of them live as slaves. Nevertheless the muscular
hermits of the mountains retained
many human characteristica, including
the distinctly human invention of tying
knots in creepers when they build &
sleeping platform in the trees strong

enough to hold their 700 pounds of bone and muscle.

In his fascinating African jungle book, "Animal Treasure." published by the Viking Press, New York, Sanderson relates that the idea did not origlnate with him but came to him from what he considera a better and older authority, the people of Assumbo. The opinion of some African savages, such the Bokia, may not be worth asking on much of anything, but the Assumbos he had found to be the reliable type of character which made their opinion worthy of respect on any matter with which they were familiar. Hes writes:

"The people of Assumbo believe gorillas to be another race of men, and not an animal at all. The chimpanzee , on the other hand, a great monkey to them and only aping man. They are an honest people and not given to imaginative story-telling, and as they probably see more gorillas and know more of their habita than does any other group of human beings in the world. I think their opinions should at least be Hatened to.

"They affirm that there is no case in their memory of gorillas trying to carry off women, which would be the first thing they would pretend gorillas did if they wished to confirm their statement that these apes are really men.

I myself, as a zoologist, naturalist, and an ordinary sane person, am in absolute agreement with the Assumbos. Seeing these creatures in life, latening to their calls and talk and examining them both alive and dead ongalde chimpanzees and men, I can only regard them and treat them as a retrograde form of human or at least subhuman life.

"They not only have hands, faces and, to a certain extent, foot like our own, but they use them in exactly the same manner as we do. Their speech contains as many different sounds and types of sounds as any human lan-

guage. They have constructive ability,
own in building platforms, using
icks and sorting out objects, that is
& par with that of some adult
humans
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Gorilla Co
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It Is the Gorilla's Curious Habit to Pop Out and Take a Big Bite Out of the
Last Man in the Line, Says Explorer Sanderson.
family Hkenesses and equally well-
marked inter-family differences. The
natives of these mountains live along-
side the gorillas and know all the fami-
Hes by sight, so that they can tell you,
more or less, in which district one will
meet certain parties, what they will
look like and how many of them there
will be.
"Scientists have been at great pains
to define a number of races of gorillas.
There are undoubtedly two, the moun-
tain and the plains forms, the latter
being really distinct and confined to a
smail area in the East, I have seen in
Assumbo & greater variety of color,
shape and also among gorillas, within
& small area than all that displayed by
the so-called sub-races, from all over
Africa where the gorilla is met with.
"Individual gorillas vary and show
"Turthermore, they bear strong family resemblances just like men.
One family may have bright-red crea
on their heads, even the very young.
another may be almost entirely very-
gray in color, and others almost jet-
black. Of course there are, apart from
these, certain colors that go with age.
notably gray hair, as among men.
"We spent a great deal of time hunt-
ing gorillas with our friend Afa
George once actually got right among
a large party, listened to them burp-
ing over their food, was bawled at by
the old male and aw them beating
their chests with their clenched fista.
"I inspected several of their nests,
which are really great platforms raised
a few feet from the ground and con-
structed for use during the night's rest

when on the move from one feeding
ground to another. These were formed
by bending saplings inward and placing
on top of this springy mattress a mass
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HE GORILLA is not really one of the apes
but a retrograde form of human, or at
least subhuman, life"
This startling opinion, contrary to accepted
scientific belief, in set forth by no less an authority that Ivan T
Banderson, British zoologist, naturalist, Fellow of the Linnean
Society and of the Royal Geographic Society. More important
than his scientific honors, in this particular question, is the fact
that he is also one of those rare individuals, an authority on go-
rillas, having actually studied them in their native haunts.
If Sanderson's theory survives the attacks it must face, It will
mean that there is no "missing link" between modern man in his
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failed because, according to the Banderson theory, these rugged Individuals not only grew hairier but bigger and stronger, while the men of the lowlands remained puny and hairless, possibly originating the almost universal ancient bellef, exemplified in the Samson story, that hairiness and muscular strength go together. These mountain Samsons who could have carried away the gates of a city or performed any of the Bibijcal strong man's feats with one hand, fell behind the plainsmen in communication, weapons and all the other tricks which can only be developed when men live together in communities, even though most of them live as slaves. Nevertheless the muscular hermits of the mountains retained many human characteristics, including the distinctly human Invention of tyin knots in creepers when they build sleeping platform in the trees stron enough to hold their 100 pounds of

[PAGE BREAK]

The
Jarilla
San Francisco Examiner, Calif
an Actual Brother of Man?
27 March 1938
American Weekly Magazine pase
or Possibly Subhuman
Stock, Thinks Explorer
Sanderson, and Tells
Why He and the
Tribes in Gorilla Land
Are Convinced of It
French Sculptor Fremlet's Famous Statue,
Caction by a Gorilla," Embodying a Tradition
African Natives That
Manlike Monsters
Sometimes Carry Away Women From
the VIII

HE GORILLA is not really one of the apes but a retrograde form of human, or at least subhuman, life"

This startling opinion, contrary to accepted scientific belief, in net forth by no le an authority that Ivan T. Sanderson, British zoologiat, naturallit, Fellow of the Linnean Society and of the Royal Geographic Society. More important than his scientific honors in this particular question, in the fact that he is also one of those rare individuals, an authority on gorillas, having actually studied them in their native haunta

If Sanderson's theory survives the attacks it must face, it will mean that there is no "missing link" between modern man in his airplane and the hairy giant of the anthropoids, for they are both to be considered as humans or to have once been subhumans to-

gether. The mining link then would be a fossil linking the ancestors of the chimpanzee and other unquestioned apea on one side, with the ancestors of modern man and the gorilla on the other.
At a time so remote that perhaps it will never be known, some urgent reason moved a number of African Samsons to leave the local Philistines on the lowlands where life was comparatively easy and take to the mountain fastnesses.
If stone age Delilahs were sent after them, they must have falled because, according to the Sanderson theory, these rugged Individuals not only grew hairier but bigger and stronger, while the men of the lowlands remained puny and hairless, possibly originating the almost universal ancient belief, exemplified in the Samson story, that hairiness and muscular strength go together.
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In his fascinating African jungle

[PAGE BREAK]

27 March 1938 San Fravisw Examiner, Calif
Country Call the Great
Gorilla at the American
Characteristion.
Bite Out of the
crests
your
The Gorilla Baby Goes Into Temp
Just Like Human Child and With
About the Same Expression and
Gestures
of leafy branches,
torn from the sur-
rounding trees
Among these I
counted more than
two dozen com-
plete knots, made
in the creepers and
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them down. They

were mostly gran-
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rear knots (one
of which I cut out
and kept) which had un-
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greatures.
That the male gorilla
will usually attack on night, or rather,
As soon as he known he has been seen,
han undoubled fact, at least in As-
sumbo When he does so, he stands
erect and gathers the branches in his
arms before him to screen himself. Is
there anything but a human that would
do this f
ere are other tales suggesting
that sometimes it is even worse when
gorilla sees human trespassers but
lot apen by them. For instance,
asumbo natives traverse gorilla
they avoid as much as pos
usual and convenient method
marching in single file. When, as
often happens, this is unavoidable, the
most dangerous and unpopular position
is not leader of the file but the last
man
This is because the gorillas have a
quaint habit of hiding until the last
Comparative Photographs of the Right Hands of
a Gorilla and a Man-the Resemblance La Ao-
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ably from blood-
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IR the Korilla
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bite the leader or anyone else except the very last man he would get peared or shot by the man just behind. An it in, the gorilla gets away unscathed and, until someone devises a pair of iron pants for last men to wear, these nip-and-run tactics will continue to have as much moral effect in reducing traf-fe through gorilla territory as if the powerful creatures risked attacking the whole party.
Coming upon the body of a male specimen weighing between 600 and 700 pounds, that had been shot by native hunter, the author expresses his feelings as follows:
"I shall never quite forget the emo-tions that this sight conjured up inside of me. I had always been taught to think of the gorilla as the very essence of savagery and terror, and now there lay this hoary old vegetarian, his im-mense arma folded over his great pot belly, all the fire gone from his wrin-kled, black face, his soft brown eyes wide open beneath their long, straight lashes and filled with an infinite sor-TOW.
"Into his whole demeanor I could not help but read the tragedy of his race.... driven from the plains up into the mountains countless centuries ago by more active ape-like creatures-per-

haps even our own forebears; chevied hither and thither by the ever-encroaching hoardes of hairless, shouting little men, his young ones snatched by leopards, his feeding grounds restricted by farms and paths and native huntamen.

"All around him was a changing world, against which he bellowed his defiance to the end, rushing forward to meet the bits of lead blasted at him by his puny rival. At last the Munchin came and the sad old man was lashed to two young trees and borne away by 30 staggering, chanting humans, away from the silence of the mists, away from his last, tangled stronghold: yet not quite the last of the giants and not quite unmourned."

But why did the stout fellows, ancestors of these giants, leave the more favorable plains to their feebler fellow humans or subhumana? One may
It
easily suspect a plausible cause.
probably came about at the dawn of organization in Africa, the beginning of community life. Little organizations of a few families fought others of similar size, carefully keeping away from certain extra-husky Samsona.

But finally family enslaved family until tribes grew so powerful in numbers that no one of these Samsons could athd against them.

The weakness of the rugged individualist is that he always plays a lone hand and geta pulled down, one at a time, by the pack. Finally it became a choice of being exterminated or retreating to the mountain wilderness.. There as outlaws but still unorganized individualists, they gained in strength and certain kinds of cunning but their mental development, as a whole, came to a stop. Only a very small side branch of the breed managed to survive in the lowland jungles.

Fascinating speculations arise regarding certain similarities of habits among gorillas and Negro natives. Everyone who has seen a gorilla is im-

pressed by his characteristic babit of beating his breast with the same horny knuckles on which he walks when going on all fours. The gorilla has a huge chest, as round and almost as big as a barrel and when he thumps it, the great cavity of the lungs reverberates an if he were beating a drum, producing a sound that can be heard for three miles.

Is it possible that when the gorilla's ancestors took to the mountains, most everyone had a big enough cheat to use a drum but that later the human native's chest shrank until, as today, it became an inefficient noise-maker? Anyhow, while the gorilla still beats him, the Negro has invented an artin cial chest, the African tom-tont drum. which he still thumps with his knuckde. gorilla style, but is able to send hir message many times father than the biggest and mightiest chest-pounder

Another curiousought arises about custom still persisting in many African tribes of not burying the bodies of chief and other tribal dignitaries but exposing them on platforms high up in trees to be devoured by carnivor ous birda

To just such a platform the gorilla today retiree to die of sickness or wounds and there the birds often de-Your him as they do the smaller body of the chief or witch doctor.

Magic and mysticism often carry on In their rituals customs that were once universal and useful but have been so long abandoned that the tribe itself has forgotten that it ever had such a custom

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NEWSPAPER: THE NEW YORK TIMES
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"All the News
That's Fit to Print"
The New York Times.
UMMARY AND INDEX, PAGE 95
CIV
No. 35,638.
Estered as S-Clas
Denice, New York, N
Copyright, 1955, by The New York Times Company,"
NEW YORK, SUNDAY, AUGUST 21, 1955.
LATE CITY EDITION
Mostly fair and hot today:
and tomorrow.
Temperature Range Today Mas, 95; Mia., 76
Temperatury Yesterday Mas, 940; Ma, 74.5
Full .. Water Buress Repers, See, S, Pace II
BECTION ONE
TWENTY-FIVE CENTS
SAY 300 Soviet to Free 3 Americans; SECRECY IS EASED FLOOD TOLL IS 143 AS RIVERS RECEDE;
OUTBREAKS 2 Are G.I.'s Missing 7 Years AS ATOMIC PARLEY
TH AFRICAS. Requested Release of Privates After IN GENEVA CLOSES
Violence Erupts
and Morocco-
ove In Quickly
Former Captives From Other Lands
Told of Soldiers' Imprisonment
Special to The New York Times.
Nations Expected to Share
Knowledge of Peaceful
Uses of Nuclear Energy
By WILLIAM I. LAURENCE
perial to The New York Times.
WASHINGTON, Aug. 20-and Cumish were classed en Ita
Three Americans, including two records as deserters. It sajd
United States soldiers missing they would be subject to arrest
INS REPRISAL for seven years, are being re-and trial upon their return to
leased from Soviet prisons American custody. According
The State Department an-to the Army, they were absent GENEVA, Aug, 20-The firal

curs on Second ounced today that the Soviet without leave from their organi International Conference on the
Foreign Office had informed the rations when they disappeared Peaceful Uses of Atomic Energy
United States Embassy In Mos- behind the Iron Curtain in 1948 tame to a close here this after-
cow of the Imminent release of The release of Cumish and noon after fortnight of a
Fields had been requested by the toric sessions. During them the
They are Wilfred C. Cumish, United States Embassy in Mos-United States; the Soviet Union,
United States Army private, cow July 16, shortly after the Dritain, France and other ha
missing from his post in Vienna, fact that they were in Soviet tions shared hitherto closely
t. 20-Some of the more than seven years, Murray prisons had become known. guarded secrets of how to Har
In the bloody Fields, United States Army pri-
Information oh the presence of ness the vast energy of the atom
of Dethroning
ben Youssef
RY GINIGER
Hey York Times,
the three men.
ry of French North ate, missing from his unit in the two had been obtained from for the benefit of mankind.
it death to mare Germany more than seven years, nationals of other countries who The conference marked the
ons in Algeria and and Frederick Charles Hopkins, had themselves been released end of an era of secrety on mat
about whom nothing is known. from Soviet prisons. Yesterday, tera relating to knowledge about
y.
ut still incomplete Cumish, 39, is a native of the Soviet Foreign Office ad-controlled uses of atomic energy
e number of ajead Amesbury, Mass. Fields, 36, also vised the United States that the for power and for Improving the
ives and French in known as Feingersch, is a native men would be freed and added health, wealth and happiness of
as a result of sud-of Brooklyn, N. Y,
the unexpected information that mankind everywhere. From now
y terrorist bands The Army sald both Fieldal Continued on Page 21, Column 2 on it is expected that the ma
y of Constantine
asualties were put
thirteen wounded
even captured.
French forces,
ir lives and thirty-
ounded. Civilian
put at twenty
y wounded.
where a disputed
ised bloodshed for
years, there were
Reds Returning One Flier;
tions will share their knowledge
freely about the peaceful uses of
atomic energy, reserving to

themselves only those items that
relate to military use.
While formal mention
Other Died in Korea Plane made during the two weeks of
By The Untud PrOM
sessions about the prospects for
International control of atomic
weapons delegates from seventy-
PANMUNJOM, Korea, Sunday, Aug. 21-The North two countries in private conver-
Korean Communists admitted today holding a United States sations. were generally agreed
ed on both sides Air Force lieutenant who was shot down by Red guns over that the new spirit of
Interna-
lest eight cities
orafe. The total
Morocco was not
but it was ex-|
in the hundreds.
peans and about
na were reported
illed in rioting at
th of Casablanca.
ed in.
SOVIET DISCLOSES
tional cooperation that marked
the Korean demilitarized zone the conference throughout would
United States officer in the for
The Communists said a second also serve as an opening wedge
removing obstacles still
downed plane was dead. standing in the way of reaching
At a meeting of the Joint an agreement on such controls.
Military Armistice Commission
the Reds raid they captured Sec-
SECRET FARM DATA:
Legionnaires Grain Harvest Seen Falling
Far Short of Goal-y. S.
Experts Offer Ideas
arly Sunday the
Tal for Morocco,
val, said France
repressive meas-
Oued Zem at-
asociated Press
ions lodicated
By WELLES HANGEN
Srental to The New York Time
MOSCOW, Aug. 20-The Bo-
Knowledge-Sharing Stressed
war itself
Canfer-
31 LOST AT CAMP IN THE POCONOS;
PRESIDENT SPEEDS DISASTER RELIEF
Associated Press Wirepte

CONNECTICUT PLANT BURNS IN FLOOD: Smoke rises from the Metal Sellers Corporation in Putasm after two-day fire. Hundreds of barrels of exploding magnesium from the plant floated about the business district on flood waters, setting other fires. Rising river washed out the roadway in front of plant, preventing firemen from reaching blaze.

JERSEY DECLARED Connecticut Waters Fall;
A DISASTER ZONE Havoc Shocks Army Aide
Meyner Describes Conditions
Special in The New York Times
By MERRILL FOLSOM
Special to The New York Times
and
6 STATES DIG OUT
Thousands Housed by
Red Cross-3 Cities in
Rhode Island Hit.
By EDWIN L. DALE JR
Aalx-alate area in the north-
Castern United States counted
113 deaths yesterday, with, the
full measure of damage from
Friday's floods still to be as
seased,
assign
DEATH TOLL HIGH
IN POCONOS CAMP
Moroccan Sultan, the United States agricultural/turned over to the United Na-lence on Peaceful Uses of
Atomic dent Eisenhower today declared ments of engineers and funds!
Besides the known dead scores
were reported missing. The final
Loll was far from complete.
The Red Cross, set aside
[AD] $2,000,000 for preliminary rellet
and reported it had cared for
p.000 homeless Friday night.
This figure did not approach
half of all those who were flood-
ed out of their homes.
In Fraser, Colo., President
Elsenhower moved to make Fed-
eral aid immediately available to
six stricken states. He declared
Pennsylvania, Connecticut, Mas-
achusetts, South Carolina and
"all flooded areas" of New Jer-
sey and the Woonsocket, RI,
zone major disaster areas.
Rhode Island became a late
addition to the distress list as
the Blackstone joined the rivers
on the loose. Gov. Dennis J.
Roberta estimated damage at
[AD] $150.000.000 in Woonsockel, Cen-

tral Falls and Pawtucket
The day s most agonizing news
came from the Poconos in Penn-
sylvania, where thirty-one per-
sons apparently lost their lives
as the food burst upon their
summer camp.
However, in the six-state arca
Generally, a combination yeater-
day of dry akies, dikes and sand-
bags kept new flood destruction
.o a minimum. Rivers all over
the
he Northeast-itluding
Blackstone-wero falling back
from their food peaks,
Disease Threat Remains
Disease remained a serious
menace in parts of Connecticut
ind Pennsylvania.
and pure
water was a problem in several
dozen soggy communities.
A state-by-state summary of
flood conditions follows
CONNECTICUT Forty-three
Jend Thirteen communities de-
lared "health hazard areas, en-
ond Lieutenant Guy H. Bumpass Cooperation among the scien-
Jr. of Jackson, Miss., the pilot tists, delegates said, will remove
of the T-6 training plane shot political barriers. The sharing
down Wednesday.
of knowledge, they are con-
The Communists said that vinced, will demonstrate to the
Capt, Charles W. Brown of West leaders of all nations that a nu-
Louisville, Ky. Army observer clear reactor that promises to
in the trainer, was killed in the bring power and wealth In
crash of the plane, downed by abundance to all peoples is a
Red' anti-aircraft fire.
weapon vastly more powerful
Maj. Gen. Jung Kooh Rok of than any hydrogen bomb-a
viet Union's grain harvest this North Korea told Maj. Gen weapon that will make the hy-
report on the year will fall considerably short Harlan C. Parks, senior United drogen bomb and
rism in Algena, of the reduced goal of 114,000.-Nation delegate on the commis- anachronisma
nistry of the In-1000 metric tons set by the Gov-slon that Lieutenant Bumpass
HARTFORD, Aug. 20-Waters receded and the sun
d direct link ernment.
would be returned to the United reading its president, Prof
nlence in Algeria
The conference ended with the in the West as Appalling-shone today to bare Connecticut's deep
gashes from yester
The first official disclosure of Nations Command on Tuesday Homi J. Bhabha of India, of a5 Dead,

3,000 Homeless day'a record floods. Secretary of the Army Wilber M. Brucker
Morocco. It said, this country's failure to fulfill within the demilitarized zone. message from Soviet Premier
had been alerted the vital grain production plan
arriyed by plane and flew over;-
Nikolai A. Bulganin that caused
trouble in Algeria was made here today by Ivan A.
Body to Be Brought Back
the atricken areas by heli-,
nd anniversary of Benediktov Minister of State
General Jung said that Cap-sage read.
tumultuous applause. The mes-By GEORGE CABLE WRIGHT copter. He declared the dis-
ent and exile of Farms, during a conference with in Brown's body would be
The International
aster was so great he was
TRENTON, Aug. 20-Preal-maki
making immediate
tions Command al
ed ben Youssef delegation.
the same
time.
analists champion The two-and-one-half-hour sea-
Energy now drawing to a close New Jersey a disaster area. This rest
General Parks said that the in Geneva is a significant step premise of Federal aid followed to restore transportation and
said the sudden aion between the twelve Ameri- United Nations Command was toward the establishment of in- plea for assistance by Gov. Public health
stantine and the agriculture officials
To: bands crn can visitors and leading Soviet not certain the caplain died international cooperation in the Robert B Meyner and Repre
Wa
un- the crash or from anti-aircraft most important field of the utdi-sentative Frank Thompson Ji. he telephoned to President Eisen
Alighting from the dent
gion in eastern usual. Mr Benediktov and his
zation of atomle energy for
as in this moun colleagues divulged quantities of When the body is returned." peaceful purposes.
three-hour inspection flight. He hour, the President seat the fal
Later the Governor made a hower in Colorado, Within an
at nationalist ter statistical information on crop he said after the meeting, "we The exchange of views and called conditions in western New lowing wire to Gov. Abraham
Valley Litchfield. Torrington,
ts appearance for acreages farm labor and related, will examine IL
Waterbur Winsted.
to determine information which has taken Jersey appalling.
Ansonia
Seymour Nauzatuck and Fun.
years last subjects that had been held in whether he was killed in the place at the conference repre-
The death toll in the state is "As you requested, I have to
the closest serrecy throughout crash or by artillery fire.
Special to The New York Tigus
nam were hardest hit. Winsted,
sents a valuable contribution to five. More than 3,000 persons day declared a major disaster,

bel capialties re the history of the Soviet regime
EAST STROUDSBURG, Pa with a population of 9.000 was
General Parks protested bil further scientific and technical have fled their homes. Property under public authority of Public
Aug 20-Chaos and benumbed/virtually isolated National Guard
French and the Moreover, Soviet officials ac-terly to the Communists for progress in this field., damage is expected to reach Law 875, in the areas of the shock overlie this area today, in troops were flown in 19 keep
ebel operations incepted in good grace and with their "unprovoked and muder- This conference will undoubt-hundreds of millions of dollars State of Connecticut which have the wake of the worst flood in order
hey had gathered 2ut serious objection a series of aus altack on the unarmed edly serve the cause of peace The deluge, which began yes-, been damaged by floods.
its history
NEW JERSEY
and make for a further relaxa-terday when the Delaware River "I have allotted to the Federal There are thirty bodies in one, Gov Robert B. Meyner said the
nce the current country's farm program offered He told the Reds that just tion of international tension.
and her tributaries burst over Civil Defense Administration funeral home alone, and no one state had suffered a
Americans. The visitors one day after the United States
"The Soviet Government con- their banks, had by this after-such funds for Federal assistance knows how much higher the fig phe and was promised Federal
yesterday completed a month- plane was shot down, a Congratulates all those taking part noon
inundated much of the as are necessary to supplement ure will go. Some estimates are hit High water forced 1000 per-
rorists in long tour of the principal Soviet munist plane was spotted over in the conference on the success Delaware Valley.
at least 100 Helicopter pilots ons to
United Nations territory within achieved and expresses hope that Four Delaware River bridges "I am deeply concerned with this afternoon reported seeing Trenton
anti-aircraft batteries.
the range of United Nations the international cooperation in were destroyed. Three others the hardship and suffering caused at least nine bodies floating in NEW YORK Four were known
the field of peaceful utilization were damaged and are in danger the people of your state by this the still wildly overflowing Del. In be dead overnor Haramin
But despite a strong resent-of atomic energy which has been of collapse Many small bridges flood."
aware River
he said, "we did not fire so successfully Inaugurated at and roads are badly damaged ar Eighty thousand persons were The greatest roncentrated environs a dissier area, but as t
this conference will be continued washed out
driven from their homes by the tragedy was at Camp Davis, the hostate was availa
The Communist agreement to through the regular convening of The Delaware crested at twen-swollen rivers. Moat of them summer colony of fourteen mad for relied Bonding nur
Continued on Page 4. Column 4
est bungalows near Analomink amage in the milliers
Continued on Page 34, Column 1 Continued on Page 48, Column 1 Continued on Page 46, Column 3
three miles northwest of here nx ours in the southeas
in
fire
s one of the larg-suggestiods for changes in this plane.
by

the offical an
ent renters around
t noon bombs were
ice headquarters
agricultural regions.
were kille and
ounded in French
Constantine The
those of a police
Criticism by Americans
The United States experts for-
mulated the following criticisma,
of the Soviet agricultural sys
Lem
Farm labot is expended with
nephew of the extravagance while materials,
machinery and other production
Page 1. Calumni facilities are similarly wasted on
many collective and state farms.
The intensive program to ex-
rued even in areas of de-
finent rainfall where sorghums
ar legumes could be more eco-
ports News on production is being
EBALL
men
en it
A Ribicoff.
state and other efforts
untaminated Lood.
Damages
Several From New York and angered by polluted water and
Jersey Are Still Missing-greatest in the Naugaturk River
Stroudsburg Toll Large
More than forty persons most
of them women and children'
from New York and New Jersey
were vacationing at the camp
The tall Camp Davis was
twelve person known den and
Five dead
catastro
flee their homes in
le atet Fr Javis and
ern part of the state
MASSA
SETTA Thustern
Continued on Page 47 Colums
City's Heat at 94.8°

[PAGE BREAK]

Most of the dead in Strouds-widened.
of mud and sdt that was the, As today develop■a nou anuj
humid, thousands of tourists who
burg were from the Silk Mill Dantage was estimated at over town green. The town actually had been holed up in motels,
Flat section, where the odor of a billion dollars. The Massachu-was cut in two by the raging hotels and tourist homes since
natural gas fumes was strong setts Public Works Commission waters of the Chicopee River. Thursday hopefully took to the
Authorities await results of au-er, John A. Volpe, said the cast
topsies to determine whether the to repair state highways alone
victims were drowned or died would be about $6,500,000.
AS RIVERS RECEDE
Continued From Page 1
Lon, raston, nazieton, i amaqua,[
Reading, Wilkes-Barre and
trains to Boston, not a car was
moving along the Boston and
Albany tracks in he iSpringfield
area.
In a Port Jervis Yard
Pottstown. F
PORT JERVIS, N. Y., Aug
RHODE ISLAND: One person 20 UP-The grim saga of the
Some were continuing
road.
was dead. The Blackstone River flood was enned a bit by what
flooded Woonsocket and 500
Road at Westfield
Grotesque stories of the flood's
familles were evacuated. Almost happened in Austin Crane's
north to continue vacations.
The city of Westfield remained Others were headed to the south
wrath were still pouring in. Near
the entire city, with a population
back yard.
Mr. Crane lives along the Scranton, Pa., three dead per-.
from the fumes
A staff of sixty-six doctors stricken families in Charlton, tion of a single road to the south
State police rushed food to isolated today with the excep- and west to return to their jobs were dead
and several were of 50,000, was without drinking bank of the Delaware River, sons were found in second floor
Many businesses were running missing. Most seriously battered water.
and nurses was sent to Strouds- Oxford and Southbridge. Only Along this poured a stream of
short-handed in the isolated were Springfield, Chicopee, Hol- VIRGINIA: Three were known which surged over its banks
bedrooms of a house that broke
burg from Reading to treat the cold edibles were transported be-emergency
loose from its foundations. In
yesterday.
supply clues and towns because of the yoke and Worcester, but the to be dead, but the worst (ap-
Inspecting his flooded yard, Wlasted, Conn., a ham radio

homeless and injured.
cause cooking facilities and powtrucks.
Inability of workers to commute danger from flooded river peared to be over Damage was
seemed to have passed. Emer estimated at three to four mil- he saw a nine-and-a-half-operator the
town's only con-
The Delaware River creasted er were not available in several The Boston and Albany Rall-from outlying
areas.
pound pike, about thirty inches tact with the outside-broke
at forty feet early this morning communities.
road out of Springfield is ex- The narrow back roads, cus-gency kitchens were set up lo llon dollars in
scattered areas.
The best news yesterday came long. Later, when the water down and wept as he told what
smashing a fifty-two-year record The shortage of water and the preted to be idle for several tomarily
known only to local feed thousands of homeless and
of twenty-eight and one-tenth danger of pollution brought a more days because of washouts residents,
were lined with crawl- 11,000 familles in Worcester had from Hartford and Philadelphia receded from
the yard, it left was happening.
feet. It was sixteen feet above warning to flood-ravaged towns The New York, New Haven and Ing
vehicles using such byways no drinking water.
The Connecticut, Delaware and quite a pool with the fish
PENNSYLVANIA: The known Schuylkill Rivers would do no still flapping about in It
flood level. Part of a Northampto boil all drinking water before Hartford Railroad began operat-for
detours.
ton Street bridge there was
using it.
ing shuttle service to New At the various state police dead totaled seventy-four and more damage. The
Connecticut
washed away. All electric lights
York Buses, using the lone route barracks in the flood areas crude eighty persons were missing Gov
swept past Hartford at levels and Burlington, N. J., but
were cut in 'he central business
Death Toll Is 13
The death toll stood at
cars
and
The Naugatuck Piver under-
mined part of a cemetery In
Seymour, Conn., and floated cof-
fins downstream. In Farmington
cara mother and father watched
section of Easton.
Five persons were listed as teen but many persons were to Berlin. Co■n, where they making detours.
At hamlets of tation and reconstruction would major devastation, but the city delphla and 'Camden
farther out of sight by the waters; they
were able to board trains. the back roads local police and be a "major problem for months went
untouched because of dikes downstream
dead and one missing in Scran-missing or unaccounted for.
are still missing.
The city of Holyoke, using chal defense workers were post-to come." The heaviek death and built after
the 1936 floods,
ton, where Mayor James T. Han- In Charlton several automo-
New devastation was wrought The ebbing of the floods meant

oh closed all business establish-biles were under water and res- snow plows and every other ed at
Intersections to give direc- destruction toll was in the area The Delaware pushed some at Pellet's
Island, near Middle- little let-up for the rescuers in
ents and public places because cuers had not been able to reach available piece of highway équip-
tions and to keep traffic moving. of Stroudsburg in the Poconol water into low areas of Trenton town, N.
Y., lust night when the helicopters and amphibious ve-
6t fire hazard. Many residents them to determine they held]
passengers
Railroads resumed service on
Lies
were without drinking water
In Bethlehem, the Bethlehem
Steel Company plant was shut some lines. But there were no
down by floods in its buildings trains running out of Spring-
All major roads were closed field. A. newsman who flew over
In Tamaqua. Five bridges there the western sector reported see-
were out of service for varying ing tracks buckled and
periods.
splintered.
Bucks County Is Hard Hit The main highway from Bos-
In the greater Philadelphia lon to New York-Route 20-
area most of the homeless were was impassable. It appeared that
In Bucks County, north of the it would be days before it could
Eity where the Delaware River be opened to traffic.
Creek went on rampages.
In Southbridge, near the Rhode
and the usually calm Neshaminy Island line, a three-family house
Fifty miles of Bucks County floated on its side like a doll
waterfront along the Delaware house in a tub. The American
from Upper Black Eddy to Bris- Optical Company there reported
to were under fifteen feet of its loss would reach $10,000,000.
Eleven thousand families were
water at the flood crest last
without water in Wester's
night and early today.
Many families also were home north end because of ak in
less along the Neshaminy Bucks the high pressure syste A
County Civil Defense Director state of emergency was in force
J. It. Fell said that the flood in the city and all counties to
crest was reached throughout the west
The Army is supplying water
most of the stricken area early
purification tablets in stricken
today
The Delaware River was re-areas. C rations, blankets and
ceding today, leaving masses of mattresses
shipped to
debris along its banks and low- Southbridge and Auburn
Boston Health Commissioner
John H. Cauley said the loss of
were
lands The Schuylkill River,

settling back to normal, too.
which also overflowed, began food because of power failures
All along the Delaware River in refrigeration units was severe.
About 45,000 telephones were
churches, school buildings and out in Massachusetts and Rhode
fire houses were opened to refu-Island, most of them in western
gees, and the Red Cross set up Massachusetts.
emergency stations, field kitch-
ens and distribution centers for
blankets and other disaster
necessities.
River Water Subsides
Special to The Kew York Times
SPRINGFIELD, Mas, Aug.
A thousand persons were 20-The waters of the Connecti-
evacuated from 300 homes in a cut River and its tributaries
low-lying five-mile section along gradually subsided in western
West State Street and Sanican Massachusetts today. Under a
Drive in West Trentan
and a blazing sun weary workers
Ewing Township. In Phillips-tolled to remove the traces of
burg, N. J, across the Delaware $25,000.000 damage caused by
from Easton, Pa, 200 were two days of relentless rain.
evacuated as water rushed into With two persons known dead
Easton and possibly a few bodies yet
the plaza near the
Bridge.
PHONE CALLS DELAYED
Company Reports Faulty Links
With Flooded Areas
to be found, the stricken area
counted scores of bridges washed
away. gaping holes in main high-
ways and whole neighborhoods
flooded or digging out of cling-
Ing allt
NEW YORK
T
Worcester
Utica
STATE THRIWAY
17
Albany
MASS.
Holyoke
Otis
Springfield
US
NEW YORK
W.Taghkanigo!
Red Hook
Kingston

Canaan Win
Winsted
Mad
R.
CONNECTICUT
Hartford
Litchfield
Naugatuck R
209
Kerhonkson
Ellenville
17B Wurtsboro
55
Poughkaapsia
New
Milford
Waterbury
Naugatuck
Binghamton
Narrowsburg
97
Scranton
PENNSYLVANIA
Wilkes-Barres
Susquehanna
Tamaqua
Harrisburg
52 42
shingtonvilk
Middletown
Barryville Port Jervis
Columbia
Branchville
Oakland
Beaver
Lake
Phillipsburg
Butler
Pequannock
NEW
Stroudsburg
Hazleton
Lehigh R
03
Easton,
Allentown
Danbury
[ilk New Y
Haven
Long Island Sound
LONG
ISLAND

Clinton
Milford
· Atlantic
Bethlehem
Reading
Philadelphia Camden
PENNSYLVANIA
TURNPIKE
SusquehannaR
Wilmington
JERSEY
Atlantic City
Ocean
Walk River forced the evacua-hicles who had worked through
tion of about seventy-five per- most of Friday. The Army Engl-
sons in the Celery Avenue sec-neers moved in Balley Bridges
tion. The river had risen at the to close up road and rall gaps
rate of seven inches an hour all in Pennsylvania and Connecticut,
afternoon;
A measure of the remaining res-
Perhaps the most unwelcome cue job was the estimate of at
additions to the news were the least eighty persons still missing
R. reports from communities that in six states,
ha dsuffered heavily but could Besides the Presidential action..
not even get the word out on at least two other quick sleps
Friday,
were taken to meet the flood sit-
For example, there was the uation. Gov. Abraham A. Ribl-
town of Putnam in northeastern caff of Connecticut announced
Connecticut, While attention was that he would call a special ses-
concentrated in the western part sion of the Legislature to con-
of the state,. Putnam not only sider relief measures. The Red
was flooded by the Quinebaug Cross announced an "initial" ap-
and French Rivers but also was propriation of $2,000,000 for its
burned and blasted by exploding emergency operations,
magnesium. A magnesium plant
there went up in flames and 4,000 LEAVE CAMP DRUM
explosions lasted throughout the
night.
In Fraser the President was New Englanders Returning to
in touch during the day with Homes in Flood Zone
Secretary of the Army Wilber
M. Brucker and acting Secretary
CAMP DRUM, N. Y., Aug. 20
of Defense Ruben R, Robertson UP Eleven trains began rolling
The armed services had already out of this northern New York
gone into action before the Pres-camp tonight, speeding 4,000
Ident's order.
National Guardamen back to
Besides citing the four flood-their homes in the flood-ravaged
ed states for emergency rellef New England states.
the President also named South The contingent of the Twenty-

Carolinfa, hit by Hurricane Diane sixth Division had been sched--
when it was still hurricane uled to leave yesterday, but wa
North Carolina had been desig-held over for twenty-four hours
nated earlier. The President's because rallroad lines were im-
action makes the areas eligible passable -In many sections of
for Federal financial help, but eastern New York Btate and
the exact amounts will await re-western Massachusetts and Con-
ports from Civil Defense Admin-necticut. Six thousand other
istrator Val Peterson,
men from New England left
Floods Recede Quickly camp yesterday in motor con-
The best break the East got voya.
Today 14,100 National Guards-
yesterday was from the weather
Had more rain fallen, there was men and Army Reservists from
no telling how much additional New York State began pouting
trouble the rivers in Pennsyl-Into the camp for a two-week
vania and New England could training period.
have caused As it was, the
floods were close to the flash AIR HOSPITAL OFFERED
variety receding almost
quickly as they had come.
mont
as
What is more, the damage in Troop Carriers From Virginia
New England would have been Also Ready for Flood Aid
worse had Hurricane Diana
moved more to the north and LANGLEY AIR FORCE
less to the east. As it was, there BASE, Va, Aug. 20 P-Aid in
was relatively little rain in Ver- the form of a special air trans-
and New Hampshire, portable thirty-six-bed hospital
meaning that rivers like the and disaster relief airlift was
Connecticut had to take care of offered by the Tactical Air Com-
only the local precipitation and mand to the flood-stricken
not the additional run-off from northeastern states today.
the north.
The command 18th Air Forca
If the floods themselves were at Donaldson Air Force Base,
short-lived, their effects were Greenville, S. C. was asked to
due to last a long while. While have its troop carrier aircraft
a number of roads were re-stand by to assist the First Air
opened to traffic yesterday. Force at Mitchel Air Force
plenty of major ones were still Base, N. Y., In its relief efforts.
closed-for example, Route 20 Air Force Globemasters, huge
running from Boston south four-engine transports, are used
toward Hartford
to airlift the special hospital.
The danger of even more
disastrous flooding abated as the
The New York Telephone Com-Connecticut grudingly receded
pany reported yesterday that toward its normal channels. The
it was having trouble putting rains induced by Hurricane Diane

through calls to flooded areas in falled to spread much farther
Connecticut, Massachusetts, New north than Northampton and
Jersey and Pennsylvania.
Hadley, Mass, and robbed the
The company said it was mak-river of added power upstream
ing all efforts to expedite com-once the downpour ended late
munication and that "alterna- yesterday afternoon.
tive routes have been established The river crested at Spring-
wherever possible."
field at 7:00 PM. yesterday at
"Conditions at many of the a height of 21.1 feet. The waters
distressed points," It added, "are thereafter began to recede at the
still so critical that it cannot rate of about six inches an hour.
be determined at this time when By, noon today the crest was
the situation will measurably 15/15 feet.
improve.
The towns of Monson and Pal- FLOOD AFTERMATH: Underlined cities are among those stricken.
Black lines indicate highways affected by rains. Istore all its services in North-sonnel.
The New York Times
MD.
DEL
Delaware Bay
'0
MILES
50
Aug 21, 1955
The Lackawanna Railroad said which includes teams of doctors,
It would take three weeks to re-nurses and other medical per-

[PAGE BREAK]

THE NEW YORK TIMES, SUNDAY, AUGUST 21, 1955.
I++
47
Pennsylvania Toll Is 74 Dead, 80 Missing; 3,000 Homeless in Greater Philadelphia
WRECKAGE SLOWS
RESCUE ATTEMPTS
Many Are Unaccounted For
in Poconos-Stroudsburg
Flood Worst in History
BUCKS COUNTY HARD HIT
Delaware's Crest Puts Wide
Stretch Under 15 Feet of
Water-Rivers Receding
Epecial to The New York Times.
PHILADELPHIA, Aug. 20-
The known death toll from the
disastrous
floods 13 eastern
Pennsylvania rose to seventy-
four today.
Eighty persons were still miss-

ing and unaccounted for, mostly
in the Pocono Mountain regions
north of Stroudsburg. In the
greater Philadelphia area .more
than 3.000 persons were home-
Jess and property damage ran
into millions.
Thirty persons were counted
dead in East Stroudsburg, and
eleven bodies were recovered
from flboded areas in Canaden-
Dear Stroudsburg There
were other deaths in Honesdale,
Hazletton and Scranton.
The bodies of three Philadel-
phians who had been vacationing
in the Poconos were recovered
today in Canadensis.
The dead WOONSOCKET, R. I.: Sections of big mill torn away by Blackstone River after dam broke
were Harry J. White, 43 years
old; his son Joseph, 4, and James
Driscoll, 6.
ment, slowly emerged from a
The floods were receding this Massachusetts Death Toll Is 13; covering of mud and debris.
afternoon, but rescue operations
were hampered by washed-out
bridges and roads, wrecked power
and telephone lines.
Stroudsburg and East Strouds-
Food Rushed to Stricken Towns and south, through the north' end
burg had the worst flood in their Power and Cooking Facilities Impaired
history. More than 2.000 persons
were reported homeless in
Stroudsburg alone. Toby Park,
an amusement center in the path
of water from broken Pocono
Dam, was wrecked
Stroudsburg Roads Closed
in Western Sector-Residents Warned
to Boil All Water Before Using It
BOSTON, Aug 20 (P-Water-,mer seemed to be most affected
One road was open to the north
of the city It was choked with"
traffic.
Mount Holyoke College in the
town of South Hadley reported
[AD] $125,000 damage to two organs
in the Pratt Music Building. The
bagement of Mary E. Wooley
Hall, a student recreation and
wide detours are in order
Tourists on Way Again

As today developed hot and
humid, thousands of tourists who
OXBRIDGE, MASS.: Rescue workers pull Stanley Martika, right foreground, from water after auto plunged into creek
FLOOD TOLL RISES
AS RIVERS RECEDE
Mountains Without water, power Flood Drops Big Fish
or gas were Stroudsburg. Scran-
ton. Easton, Hazleton, Tamaqua,
Reading, Wilkes-Barre
Pottstown
and
In a Port Jervis Yard
Anxiated Press Wirephotes
eastern Pennsylvania. While the
New Haven Was running its
trains to Boston, not a car was
One penny arcade was carried
from the grounds to the middle
cultural center, was flooded.
of the road some distance away logged western Massachusetts by the heavy downpour and Except in communities where
braced Itself today against the flooded streams. Observers from was necessary to boil water
for drinking, no immediate
burg and East Stroudsburg-
Roads leading from Strouds-twin menace of hunger and dis- the air saw washed-out roads. danger of food shortages was
ease as it strained
Routes 209 90, 190 and 611-
mop up the railroad tracks buckled, auto-apparent. There was a possibili-
were closed. The Lackawanna its history
debris left by the worst flood in mobiles abandoned and houses ty that milk might be in short
Railroad tracks in the area were
leaning at odd angles.
As murky river waters receded In Monson the figure of a sol- area comes from Vermont and
supply, since most of it for this EAST STROUDSBURG, PA Refugees from flooded areas gather at a center set up to provide food and shelter
under water Eome sections of under a warm sun, the damage dier on a war memorial monu-
East Stroudsburg were flooded to industrial plants, homes, high-
to a depth of ten feet.
ways and railroad rights of way ment stood alone above a field
Most of the dead in Strouds-widened.
of mud and silt that was the
burg were from the Silk Mill Damage was estimated at over town green. The town actually had been holed up in motels,
natural gas fumes was strong setts Public Works Commission-
Authorities await results of au-er, John A. Volpe said the cost waters of the Chicopee River.
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Road at Westfield

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in Charlton, tion of a single road to the south
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hurg from Reading to treat the cold edibles were transported be-emergency
homeless and injured.
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supply cities and towns because of the yoke and Worcester, but the to be dead, but the worst ap-
The Delaware River creasted er were not available in several
inability of workers to commute danger from flooded
communities.
The Boston and Albany Rail- from outlying areas..
rivers peared to be over Damage was
read out of Springfield is ex-
seemed to have passed. Emer-estimated at three to four mil-
The shortage of water and the pected to be idle for savers!
The narrow back roads, cus-gency kitchens were set up to lion dollars in scattered areas
at forty feet early this morning
smashing a fifty-two-year record
of twenty-eight and orie-tenth
cars and
road.
Continued From Page 1
were
RHODE ISLAND: One person
flooded Woonsocket and 500
was dead. The Blackstone River
families were evacuated. Almost
the entire city, with a population
water
20 UP-The grim saga of the
PORT JERVIS, N. Y. Aug
flood was eased a bit by what
happened in Austin Crane's
back yard.
Mr. Crane lives along the
bank of the Delaware River.
which surged over its banks
yesterday.
Inspecting his flooded yard,
nine-and-a-half-
pound pike, about thirty inches
he

63W
moving along the Boston and
Albany tracks in he tSpringfield
area.
Grotesque stories of the flood's
wrath were still pouring in. Near
Scranton, Pa. three dead per-
sons were found in second floor
bedrooms of a house that broke
loose from its foundations. In
Winsted, Conn. ham radio
operater-the towns only con-
tact with the outside-broke

[PAGE BREAK]

NEWSPAPER: THE NEW YORK TIMES
LOCATION: NEW YORK, NEW YORK
DATE: 21 AUGUST 1955
VOLUME CIV, NUMBER 35,638
PAGE 1, COLUMN 5-8; PAGE 47, COLUMN 1-8

[PAGE BREAK]

"All the News
That's Fit to Print"
The New York Times.
UMMARY AND INDEX, PAGE 95
CIV
No. 35,638.
Estered as S-Clas
Denice, New York, N
Copyright, 1955, by The New York Times Company,"
NEW YORK, SUNDAY, AUGUST 21, 1955.
LATE CITY EDITION
Mostly fair and hot today:
and tomorrow.
Temperature Range Today Mas, 95; Mia., 76
Temperatury Yesterday Mas, 940; Ma, 74.5
Full .. Water Buress Repers, See, S, Pace II
BECTION ONE
TWENTY-FIVE CENTS

SAY 300 Soviet to Free 3 Americans; SECRECY IS EASED FLOOD TOLL IS 143 AS RIVERS RECEDE;

OUTBREAKS 2 Are G.I.'s Missing 7 Years AS ATOMIC PARLEY

TH AFRICAS. Requested Release of Privates After IN GENEVA CLOSES

Violence Erupts
and Morocco-
ove In Quickly

Former Captives From Other Lands
Told of Soldiers' Imprisonment

Special to The New York Times.

Nations Expected to Share
Knowledge of Peaceful
Uses of Nuclear Energy
By WILLIAM I. LAURENCE
perial to The New York Times.
WASHINGTON, Aug. 20-and Cumish were classed en Ita
Three Americans, including two records as deserters. It sajd
United States soldiers missing they would be subject to arrest
INS REPRISAL for seven years, are being re-and trial upon their return to
leased from Soviet prisons American custody. According
The State Department an-to the Army, they were absent GENEVA, Aug, 20-The firal
curs on Second ounced today that the Soviet without leave from their organi International Conference on the
Foreign Office had informed the rations when they disappeared Peaceful Uses of Atomic Energy
United States Embassy In Mos- behind the Iron Curtain in 1948 tame to a close here this after-
cow of the Imminent release of The release of Cumish and noon after fortnight of a
Fields had been requested by the toric sessions. During them the
They are Wilfred C. Cumish, United States Embassy in Mos-United States; the Soviet Union,
United States Army private, cow July 16, shortly after the Dritain, France and other ha
missing from his post in Vienna, fact that they were in Soviet tions shared hitherto closely
t. 20-Some of the more than seven years, Murray prisons had become known. guarded secrets of how to Har
In the bloody Fields, United States Army pri-
Information oh the presence of ness the vast energy of the atom
of Dethroning
ben Youssef
RY GINIGER
Hey York Times,
the three men.
ry of French North ate, missing from his unit in the two had been obtained from for the benefit of mankind.
it death to mare Germany more than seven years, nationals of other countries who The conference marked the
ons in Algeria and and Frederick Charles Hopkins, had themselves been released end of an era of secrety on mat
about whom nothing is known. from Soviet prisons. Yesterday, tera relating to knowledge about
y.
ut still incomplete Cumish, 39, is a native of the Soviet Foreign Office ad-controlled uses of atomic energy
e number of ajead Amesbury, Mass. Fields, 36, also vised the United States that the for power and for Improving the
ives and French in known as Feingersch, is a native men would be freed and added health, wealth and happiness of
as a result of sud-of Brooklyn, N. Y,
the unexpected information that mankind everywhere. From now
y terrorist bands The Army sald both Fieldal Continued on Page 21, Column 2 on it is expected that the ma
y of Constantine
asualties were put
thirteen wounded
even captured.
French forces,

ir lives and thirty-
ounded. Civilian
put at twenty
y wounded.
where a disputed
ised bloodshed for
years, there were
Reds Returning One Flier;
tions will share their knowledge
freely about the peaceful uses of
atomic energy, reserving to
themselves only those items that
relate to military use.
While formal mention
Other Died in Korea Plane made during the two weeks of
By The Untud PrOM
sessions about the prospects for
International control of atomic
weapons delegates from seventy-
PANMUNJOM, Korea, Sunday, Aug. 21-The North two countries in private conver-
Korean Communists admitted today holding a United States sations. were generally agreed
ed on both sides Air Force lieutenant who was shot down by Red guns over that the new spirit of
Interna-
lest eight cities
orafe. The total
Morocco was not
but it was ex-|
in the hundreds.
peans and about
na were reported
illed in rioting at
th of Casablanca.
ed in.
SOVIET DISCLOSES
tional cooperation that marked
the Korean demilitarized zone the conference throughout would
United States officer in the for
The Communists said a second also serve as an opening wedge
removing obstacles still
downed plane was dead. standing in the way of reaching
At a meeting of the Joint an agreement on such controls.
Military Armistice Commission
the Reds raid they captured Sec-
SECRET FARM DATA:
Legionnaires Grain Harvest Seen Falling
Far Short of Goal-y. S.
Experts Offer Ideas
arly Sunday the
Tal for Morocco,
val, said France
repressive meas-
Oued Zem at-

asociated Press
ions lodicated
By WELLES HANGEN
Srental to The New York Time
MOSCOW, Aug. 20-The Bo-
Knowledge-Sharing Stressed
war itself
Canfer-
31 LOST AT CAMP IN THE POCONOS;
PRESIDENT SPEEDS DISASTER RELIEF
Associated Press Wirepte
CONNECTICUT PLANT BURNS IN FLOOD: Smoke rises from the Metal Sellers Corporation in Putasm after two-day fire. Hundreds of barrels of exploding magnesium from the plant floated about the business district on flood waters, setting other fires. Rising river washed out the roadway in front of plant, preventing firemen from reaching blaze.
JERSEY DECLARED Connecticut Waters Fall;
A DISASTER ZONE Havoc Shocks Army Aide
Meyner Describes Conditions
Special in The New York Times
By MERRILL FOLSOM
Special to The New York Times
and
6 STATES DIG OUT
Thousands Housed by
Red Cross-3 Cities in
Rhode Island Hit.
By EDWIN L. DALE JR
Aalx-alate area in the north-
Castern United States counted
113 deaths yesterday, with, the
full measure of damage from
Friday's floods still to be as
seased,
assign
DEATH TOLL HIGH
IN POCONOS CAMP
Moroccan Sultan, the United States agricultural/turned over to the United Na-lence on Peaceful Uses of Atomic dent Eisenhower today declared ments of engineers and funds!
Besides the known dead scores
were reported missing. The final
Loll was far from complete.
The Red Cross, set aside
[AD] $2,000,000 for preliminary rellet
and reported it had cared for
p.000 homeless Friday night.
This figure did not approach
half of all those who were flood-
ed out of their homes.
In Fraser, Colo., President
Elsenhower moved to make Fed-
eral aid immediately available to
six stricken states. He declared

Pennsylvania, Connecticut, Mas-
achusetts, South Carolina and
"all flooded areas" of New Jer-
sey and the Woonsocket, RI,
zone major disaster areas.
Rhode Island became a late
addition to the distress list as
the Blackstone joined the rivers
on the loose. Gov. Dennis J.
Roberta estimated damage at
[AD] $150.000.000 in Woonsockel, Cen-
tral Falls and Pawtucket
The day s most agonizing news
came from the Poconos in Penn-
sylvania, where thirty-one per-
sons apparently lost their lives
as the food burst upon their
summer camp.
However, in the six-state arca
Generally, a combination yeater-
day of dry akies, dikes and sand-
bags kept new flood destruction
.o a minimum. Rivers all over
the
he Northeast-itluding
Blackstone-wero falling back
from their food peaks,
Disease Threat Remains
Disease remained a serious
menace in parts of Connecticut
ind Pennsylvania.
and pure
water was a problem in several
dozen soggy communities.
A state-by-state summary of
flood conditions follows
CONNECTICUT Forty-three
Jend Thirteen communities de-
lared "health hazard areas, en-
ond Lieutenant Guy H. Bumpass Cooperation among the scien-
Jr. of Jackson, Miss., the pilot tists, delegates said, will remove
of the T-6 training plane shot political barriers. The sharing
down Wednesday.
of knowledge, they are con-
The Communists said that vinced, will demonstrate to the
Capt, Charles W. Brown of West leaders of all nations that a nu-
Louisville, Ky. Army observer clear reactor that promises to
in the trainer, was killed in the bring power and wealth In
crash of the plane, downed by abundance to all peoples is a
Red' anti-aircraft fire.
weapon vastly more powerful
Maj. Gen. Jung Kooh Rok of than any hydrogen bomb-a

viet Union's grain harvest this North Korea told Maj. Gen weapon that will make the hy-
report on the year will fall considerably short Harlan C. Parks, senior United drogen bomb and
rism in Algena, of the reduced goal of 114,000.-Nation delegate on the commis- anachronisma
nistry of the In-1000 metric tons set by the Gov-slon that Lieutenant Bumpass
HARTFORD, Aug. 20-Waters receded and the sun
d direct link ernment.
would be returned to the United reading its president, Prof
nlence in Algeria
The conference ended with the in the West as Appalling-shone today to bare Connecticut's deep
gashes from yester
The first official disclosure of Nations Command on Tuesday Homi J. Bhabha of India, of a5 Dead,
3,000 Homeless day'a record floods. Secretary of the Army Wilber M. Brucker
Morocco. It said, this country's failure to fulfill within the demilitarized zone. message from Soviet
Premier
had been alerted the vital grain production plan
arriyed by plane and flew over;-
Nikolai A. Bulganin that caused
trouble in Algeria was made here today by Ivan A.
Body to Be Brought Back
the atricken areas by heli-,
nd anniversary of Benediktov Minister of State
General Jung said that Cap-sage read.
tumultuous applause. The mes-By GEORGE CABLE WRIGHT copter. He declared the dis-
ent and exile of Farms, during a conference with in Brown's body would be
The International
aster was so great he was
TRENTON, Aug. 20-Preal-maki
making immediate
tions Command al
ed ben Youssef delegation.
the same
time.
analists champion The two-and-one-half-hour sea-
Energy now drawing to a close New Jersey a disaster area. This rest
General Parks said that the in Geneva is a significant step premise of Federal aid followed to restore
transportation and
said the sudden aion between the twelve Ameri- United Nations Command was toward the
establishment of in- plea for assistance by Gov. Public health
stantine and the agriculture officials
To: bands crn can visitors and leading Soviet not certain the caplain died international cooperation in
the Robert B Meyner and Repre
Wa
un- the crash or from anti-aircraft most important field of the utdi-sentative Frank Thompson Ji. he
telephoned to President Eisen
Alighting from the dent
gion in eastern usual. Mr Benediktov and his
zation of atomle energy for
as in this moun colleagues divulged quantities of When the body is returned." peaceful purposes.
three-hour inspection flight. He hour, the President seat the fal
Later the Governor made a hower in Colorado, Within an
at nationalist ter statistical information on crop he said after the meeting, "we The exchange of views
and called conditions in western New lowing wire to Gov. Abraham

Valley Litchfield. Torrington,
ts appearance for acreages farm labor and related, will examine IL
Waterbur Winsted.
to determine information which has taken Jersey appalling.
Ansonia
Seymour Nauzatuck and Fun.
years last subjects that had been held in whether he was killed in the place at the conference repre-
The death toll in the state is "As you requested, I have to
the closest serrecy throughout crash or by artillery fire.
Special to The New York Tigus
nam were hardest hit. Winsted,
sents a valuable contribution to five. More than 3,000 persons day declared a major disaster,
bel capialties re the history of the Soviet regime
EAST STROUDSBURG, Pa with a population of 9.000 was
General Parks protested bil further scientific and technical have fled their homes. Property under public authority of Public
Aug 20-Chaos and benumbed/virtually isolated National Guard
French and the Moreover, Soviet officials ac-terly to the Communists for progress in this field., damage is expected to reach Law 875, in the areas of the shock overlie this area today, in troops were flown in 19 keep
ebel operations incepted in good grace and with their "unprovoked and muder- This conference will undoubt-hundreds of millions of dollars State of Connecticut which have the wake of the worst flood in order
hey had gathered 2ut serious objection a series of aus altack on the unarmed edly serve the cause of peace The deluge, which began yes-, been damaged by floods.
its history
NEW JERSEY
and make for a further relaxa-terday when the Delaware River "I have allotted to the Federal There are thirty bodies in one, Gov Robert B. Meyner said the
nce the current country's farm program offered He told the Reds that just tion of international tension.
and her tributaries burst over Civil Defense Administration funeral home alone, and no one state had suffered a
Americans. The visitors one day after the United States
"The Soviet Government con- their banks, had by this after-such funds for Federal assistance knows how much higher the fig phe and was promised Federal
yesterday completed a month- plane was shot down, a Congratulates all those taking part noon
inundated much of the as are necessary to supplement ure will go. Some estimates are hit High water forced 1000 per-
rorists in long tour of the principal Soviet munist plane was spotted over in the conference on the success Delaware Valley.
at least 100 Helicopter pilots ons to
United Nations territory within achieved and expresses hope that Four Delaware River bridges "I am deeply concerned with this afternoon reported seeing Trenton
anti-aircraft batteries.
the range of United Nations the international cooperation in were destroyed. Three others the hardship and suffering caused at least nine bodies floating in NEW YORK Four were known
the field of peaceful utilization were damaged and are in danger the people of your state by this the still wildly overflowing Del. In be dead overnor Haramin
But despite a strong resent-of atomic energy which has been of collapse Many small bridges flood."
aware River
he said, "we did not fire so successfully Inaugurated at and roads are badly damaged ar Eighty thousand persons were The greatest roncentrated environs a dissier area, but as t

this conference will be continued washed out
driven from their homes by the tragedy was at Camp Davis, the hostate was availa
The Communist agreement to through the regular convening of The Delaware crested at twen-swollen rivers. Moat of them summer colony of fourteen mad for relied Bonding nur
Continued on Page 4. Column 4
est bungalows near Analomink amage in the milliers
Continued on Page 34, Column 1 Continued on Page 48, Column 1 Continued on Page 46, Column 3
three miles northwest of here nx ours in the southeas
in
fire
s one of the larg-suggestiods for changes in this plane.
by
the offical an
ent renters around
t noon bombs were
ice headquarters
agricultural regions.
were kille and
ounded in French
Constantine The
those of a police
Criticism by Americans
The United States experts for-
mulated the following criticisma,
of the Soviet agricultural sys
Lem
Farm labot is expended with
nephew of the extravagance while materials,
machinery and other production
Page 1. Calumni facilities are similarly wasted on
many collective and state farms.
The intensive program to ex-
rued even in areas of de-
finent rainfall where sorghums
ar legumes could be more eco-
ports News on production is being
EBALL
men
en it
A Ribicoff.
state and other efforts
untaminated Lood.
Damages
Several From New York and angered by polluted water and
Jersey Are Still Missing-greatest in the Naugaturk River
Stroudsburg Toll Large
More than forty persons most
of them women and children'
from New York and New Jersey
were vacationing at the camp
The tall Camp Davis was
twelve person known den and

Five dead
catastro
flee their homes in
le atet Fr Javis and
ern part of the state
MASSA
SETTA Thustern
Continued on Page 47 Colums
City's Heat at 94.8°

[PAGE BREAK]

Most of the dead in Strouds-widened.
of mud and sdt that was the, As today develop■a nou anuj
humid, thousands of tourists who
burg were from the Silk Mill Dantage was estimated at over town green. The town actually had been holed up in motels,
Flat section, where the odor of a billion dollars. The Massachu-was cut in two by the raging hotels and tourist homes since
natural gas fumes was strong setts Public Works Commission waters of the Chicopee River. Thursday hopefully took to the
Authorities await results of au-er, John A. Volpe, said the cast
topsies to determine whether the to repair state highways alone
victims were drowned or died would be about $6,500,000.
cars
and
AS RIVERS RECEDE
Continued From Page 1
Lon, raston, nazieton, i amaqua,[
Reading, Wilkes-Barre
In a Port Jervis Yard
and
Pottstown.
PORT JERVIS, N. Y., Aug
RHODE ISLAND: One person 20 UP-The grim saga of the
was dead. The Blackstone River flood was enned a bit by what
flooded Woonsocket and 500
familles were evacuated. Almost happened in Austin Crane's
the entire city, with a population
back yard.
trains to Boston, not a car was
moving along the Boston and
Albany tracks in he iSpringfield
area.
Some were continuing
road.
Road at Westfield
Grotesque stories of the flood's
north to continue vacations.
The city of Westfield remained Others were headed to the south
wrath were still pouring in. Near
Mr. Crane lives along the Scranton, Pa., three dead per-.

from the fumes
A staff of sixty-six doctors stricken families in Charlton, tion of a single road to the south
State police rushed food to isolated today with the excep- and west to return to their jobs were dead
and several were of 50,000, was without drinking bank of the Delaware River, sons were found in
second floor
Many businesses were running missing. Most seriously battered water.
and nurses was sent to Strouds- Oxford and Southbridge. Only Along this poured a stream of
short-handed in the isolated were Springfield, Chicopee, Hol- VIRGINIA: Three were known which
surged over its banks
bedrooms of a house that broke
burg from Reading to treat the cold edibles were transported be-emergency
loose from its foundations. In
yesterday.
supply clues and towns because of the yoke and Worcester, but the to be dead, but the worst (ap-
Inspecting his flooded yard, Winsted, Conn., a ham radio
homeless and injured.
cause cooking facilities and powtrucks.
Inability of workers to commute danger from flooded river peared to be over Damage was
seemed to have passed. Emer estimated at three to four mil- he saw a nine-and-a-half-operator the
town's only con
The Delaware River creasted er were not available in several The Boston and Albany Rall-from outlying
areas.
pound pike, about thirty inches tact with the outside-broke
at forty feet early this morning communities.
road out of Springfield is ex- The narrow back roads, cus-gency kitchens were set up lo llon dollars in
scattered areas.
The best news yesterday came long. Later, when the water down and wept as he told what
smashing a fifty-two-year record The shortage of water and the preted to be idle for several tomarily
known only to local feed thousands of homeless and
of twenty-eight and one-tenth danger of pollution brought a more days because of washouts residents,
were lined with crawl- 11,000 familles in Worcester had from Hartford and Philadelphia receded from
the yard, it left was happening.
feet. It was sixteen feet above warning to flood-ravaged towns The New York, New Haven and Ing
vehicles using such byways no drinking water.
The Connecticut, Delaware and quite a pool with the fish
PENNSYLVANIA: The known Schuylkill Rivers would do no still flapping about in It
flood level. Part of a Northampto boil all drinking water before Hartford Railroad began operat-for
detours.
ton Street bridge there was
using it.
ing shuttle service to New At the various state police dead totaled seventy-four and more damage. The
Connecticut
washed away. All electric lights
York Buses, using the lone route barracks in the flood areas crude eighty persons were missing Gov
swept past Hartford at levels and Burlington, N. J., but
were cut in 'he central business
Death Toll Is 13
The death toll stood at
The Naugatuck Piver under-
mined part of a cemetery In
Seymour, Conn., and floated cof-
fins downstream. In Farmington

cara mother and father watched
section of Easton.
Five persons were listed as teen but many persons were to Berlin. Co■n, where they making detours.
At hamlets of tation and reconstruction would major devastation, but the city delphla and 'Camden
farther out of sight by the waters; they
were able to board trains. the back roads local police and be a "major problem for months went
untouched because of dikes downstream
dead and one missing in Scran-missing or unaccounted for.
are still missing.
The city of Holyoke, using chal defense workers were post-to come." The heaviek death and built after
the 1936 floods,
ton, where Mayor James T. Han- In Charlton several automo-
New devastation was wrought The ebbing of the floods meant
oh closed all business establish-biles were under water and res- snow plows and every other ed at
Intersections to give direc- destruction toll was in the area The Delaware pushed some at Pellet's
Island, near Middle- little let-up for the rescuers in
ents and public places because cuers had not been able to reach available piece of highway équip-
tions and to keep traffic moving. of Stroudsburg in the Poconol water into low areas of Trenton town, N.
Y., lust night when the helicopters and amphibious ve-
6t fire hazard. Many residents them to determine they held
passengers
Railroads resumed service on
Lies
were without drinking water
In Bethlehem, the Bethlehem
Steel Company plant was shut some lines. But there were no
down by floods in its buildings trains running out of Spring-
All major roads were closed field. A. newsman who flew over
In Tamaqua. Five bridges there the western sector reported see-
were out of service for varying ing tracks buckled and
periods.
splintered.
Bucks County Is Hard Hit The main highway from Bos-
In the greater Philadelphia lon to New York-Route 20-
area most of the homeless were was impassable. It appeared that
In Bucks County, north of the it would be days before it could
Eity where the Delaware River be opened to traffic.
Creek went on rampages.
In Southbridge, near the Rhode
and the usually calm Neshaminy Island line, a three-family house
Fifty miles of Bucks County floated on its side like a doll
waterfront along the Delaware house in a tub. The American
from Upper Black Eddy to Bris- Optical Company there reported
to were under fifteen feet of its loss would reach $10,000,000.
Eleven thousand families were
water at the flood crest last
without water in Wester's
night and early today.
Many families also were home north end because of ak in
Iess along the Neshaminy Bucks the high pressure syste A
County Civil Defense Director state of emergency was in force
J. It. Fell said that the flood in the city and all counties to

crest was reached throughout the west
The Army is supplying water
most of the stricken area early
purification tablets in stricken
today
The Delaware River was re-areas. C rations, blankets and
ceding today, leaving masses of mattresses
shipped to
debris along its banks and low- Southbridge and Auburn
Boston Health Commissioner
John H. Cauley said the loss of
were
lands The Schuylkill River,
settling back to normal, too.
which also overflowed, began food because of power failures
All along the Delaware River in refrigeration units was severe.
About 45,000 telephones were
churches, school buildings and out in Massachusetts and Rhode
fire houses were opened to refu-Island, most of them in western
gees, and the Red Cross set up Massachusetts.
emergency stations, field kitch-
ens and distribution centers for
blankets and other disaster
necessities.
River Water Subsides
Special to The Kew York Times
SPRINGFIELD, Mas, Aug.
A thousand persons were 20-The waters of the Connecti-
evacuated from 300 homes in a cut River and its tributaries
low-lying five-mile section along gradually subsided in western
West State Street and Sanican Massachusetts today. Under a
Drive in West Trentan
and a blazing sun weary workers
Ewing Township. In Phillips-tolled to remove the traces of
burg, N. J, across the Delaware $25,000.000 damage caused by
from Easton, Pa, 200 were two days of relentless rain.
evacuated as water rushed into With two persons known dead
Easton and possibly a few bodies yet
the plaza near the
Bridge.
PHONE CALLS DELAYED
Company Reports Faulty Links
With Flooded Areas
to be found, the stricken area
counted scores of bridges washed
away. gaping holes in main high-
ways and whole neighborhoods
flooded or digging out of cling-
Ing allt
NEW YORK
T
Worcester

Utica
STATE THRIWAY
17
Albany
MASS.
Holyoke
Otis
Springfield
US
NEW YORK
W.Taghkanigo!
Red Hook
Kingston
Canaan Win
Winsted
Mad
R.
CONNECTICUT
Hartford
Litchfield
Naugatuck R
209
Kerhonkson
Ellenville
17B Wurtsboro
55
New
Milford
Waterbury
Poughkaapsia
Binghamton
Narrowsburg
97
Scranton
PENNSYLVANIA
Wilkes-Barres
Susquehanna
Tamaqua
Harrisburg
52 42
shingtonvill
Middletown
Barryville Port Jervis
Columbia
Branchville
Oakland
Beaver
Lake
Phillipsburg
Butler
Pequannock
NEW

Stroudsburg
Hazleton
Lehigh R
03
Easton,
Allentown
Danbury
Naugatuck
[ilk New Y
Haven
Long Island Sound
LONG
ISLAND
Clinton
Milford
· Atlantic
Bethlehem
Reading
Philadelphia Camden
PENNSYLVANIA
TURNPIKE
SusquehannaR
Wilmington
JERSEY
Atlantic City
Ocean
Walk River forced the evacua-hicles who had worked through
tion of about seventy-five per- most of Friday. The Army Engl-
sons in the Celery Avenue sec-neers moved in Balley Bridges
tion. The river had risen at the to close up road and rall gaps
rate of seven inches an hour all in Pennsylvania and Connecticut,
afternoon;
A measure of the remaining res-
Perhaps the most unwelcome cue job was the estimate of at
additions to the news were the least eighty persons still missing
R.I reports from communities that in six states,
ha dsuffered heavily but could Besides the Presidential action,.
not even get the word out on at least two other quick sleps
Friday,
were taken to meet the flood sit-
For example, there was the uation. Gov. Abraham A. Ribl-
town of Putnam in northeastern caff of Connecticut announced
Connecticut, While attention was that he would call a special ses-
concentrated in the western part sion of the Legislature to con-
of the state,. Putnam not only sider relief measures. The Red
was flooded by the Quinebaug Cross announced an "initial" ap-
and French Rivers but also was propriation of $2,000,000 for its
burned and blasted by exploding emergency operations,
magnesium. A magnesium plant
there went up in flames and 4,000 LEAVE CAMP DRUM
explosions lasted throughout the
night.

In Fraser the President was New Englanders Returning to
in touch during the day with Homes in Flood Zone
Secretary of the Army Wilber
M. Brucker and acting Secretary
CAMP DRUM, N. Y., Aug. 20
of Defense Ruben R, Robertson UP Eleven trains began rolling
The armed services had already out of this northern New York
gone into action before the Pres-camp tonight, speeding 4,000
Ident's order.
National Guardamen back to
Besides citing the four flood-their homes in the flood-ravaged
ed states for emergency rellef New England states.
the President also named South The contingent of the Twenty-
Carolina, hit by Hurricane Diane sixth Division had been sched--
when it was still hurricane uled to leave yesterday, but wa
North Carolina had been desig-held over for twenty-four hours
nated earlier. The President's because rallroad lines were im-
action makes the areas eligible passable In many sections of
for Federal financial help, but eastern New York Btate and
the exact amounts will await re-western Massachusetts and Con-
ports from Civil Defense Admin-necticut. Six thousand other
istrator Val Peterson,
men from New England left
Floods Recede Quickly camp yesterday in motor con-
The best break the East got voya
Today 14,100 National Guards-
yesterday was from the weather
Had more rain fallen, there was men and Army Reservists from
no telling how much additional New York State began pouting
trouble the rivers in Pennsyl-Into the camp for a two-week
vania and New England could training period.
have caused As it was, the
floods were close to the flash AIR HOSPITAL OFFERED
variety receding almost
quickly as they had come.
mont
as
What is more, the damage in Troop Carriers From Virginia
New England would have been Also Ready for Flood Aid
worse had Hurricane Diana
moved more to the north and LANGLEY AIR FORCE
less to the east. As it was, there BASE, Va, Aug. 20 P-Aid in
was relatively little rain in Ver- the form of a special air trans-
and New Hampshire, portable thirty-six-bed hospital
meaning that rivers like the and disaster relief airlift was
Connecticut had to take care of offered by the Tactical Air Com-
only the local precipitation and mand to the flood-stricken
not the additional run-off from northeastern states today.
the north.
The command 18th Air Force
If the floods themselves were at Donaldson Air Force Base,
short-lived, their effects were Greenville, S. C. was asked to

due to last a long while. While have its troop carrier aircraft
a number of roads were re-stand by to assist the First Air
opened to traffic yesterday. Force at Mitchel Air Force
plenty of major ones were still Base, N. Y., In its relief efforts.
closed-for example, Route 20 Air Force Globemasters, huge
running from Boston south four-engine transports, are used
toward Hartford
to airlift the special hospital.
The danger of even more
disastrous flooding abated as the
The New York Telephone Com-Connecticut grudingly receded
pany reported yesterday that toward its normal channels. The
it was having trouble putting rains induced by Hurricane Diane
through calls to flooded areas in falled to spread much farther
Connecticut, Massachusetts, New north than Northampton and
Jersey and Pennsylvania.
Hadley, Mass, and robbed the
The company said it was mak-river of added power upstream
ing all efforts to expedite com-once the downpour ended late
munication and that "alterna- yesterday afternoon.
tive routes have been established The river crested at Spring-
wherever possible."
field at 7:00 PM. yesterday at
"Conditions at many of the a height of 21.1 feet. The waters
distressed points," It added, "are thereafter began to recede at the
still so critical that it cannot rate of about six inches an hour.
be determined at this time when By, noon today the crest was
the situation will measurably 15/15 feet.
improve.
The towns of Monson and Pal- FLOOD AFTERMATH: Underlined cities are among those stricken.
Black lines indicate highways affected by rains. Istore all its services in North-sonnel.
The New York Times
MD.
DEL
Delaware Bay
'0
MILES
50
Aug 21, 1955
The Lackawanna Railroad said which includes teams of doctors,
It would take three weeks to re-nurses and other medical per

[PAGE BREAK]

THE NEW YORK TIMES, SUNDAY, AUGUST 21, 1955.
I++
47
Pennsylvania Toll Is 74 Dead, 80 Missing; 3,000 Homeless in Greater Philadelphia
WRECKAGE SLOWS
RESCUE ATTEMPTS
Many Are Unaccounted For
in Poconos-Stroudsburg

Flood Worst in History
BUCKS COUNTY HARD HIT
Delaware's Crest Puts Wide
Stretch Under 15 Feet of
Water-Rivers Receding
Epecial to The New York Times.
PHILADELPHIA, Aug. 20-
The known death toll from the
disastrous
floods 13 eastern
Pennsylvania rose to seventy-
four today.
Eighty persons were still miss-
ing and unaccounted for, mostly
in the Pocono Mountain regions
north of Stroudsburg. In the
greater Philadelphia area .more
than 3.000 persons were home-
Jess and property damage ran
into millions.
Thirty persons were counted
dead in East Stroudsburg, and
eleven bodies were recovered
from flboded areas in Canaden-
Dear Stroudsburg There
were other deaths in Honesdale,
Hazletton and Scranton.
The bodies of three Philadel-
phians who had been vacationing
in the Poconos were recovered
today in Canadensis.
The dead WOONSOCKET, R. I.: Sections of big mill torn away by Blackstone River after dam broke
were Harry J. White, 43 years
old; his son Joseph, 4, and James
Driscoll, 6.
ment, slowly emerged from a
The floods were receding this Massachusetts Death Toll Is 13; covering of mud and debris.
afternoon, but rescue operations
were hampered by washed-out
bridges and roads, wrecked power
and telephone lines.
Stroudsburg and East Strouds-
Food Rushed to Stricken Towns and south, through the north' end
burg had the worst flood in their Power and Cooking Facilities Impaired
in
history. More than 2.000 persons
were reported homeless
Stroudsburg alone. Toby Park,
an amusement center in the path
of water from broken Pocono
Dam, was wrecked
in Western Sector-Residents Warned

to Boil All Water Before Using It
One penny arcade was carried
from the grounds to the middle
of the road some distance away logged western Massachusetts by the heavy downpour and
BOSTON, Aug 20 (P-Water-,mer seemed to be most affected
One road was open to the north
of the city It was choked with"
traffic.
Mount Holyoke College in the
town of South Hadley reported
[AD] $125,000 damage to two organs
in the Pratt Music Building. The
bagement of Mary E. Wooley
Hall, a student recreation and
OXBRIDGE, MASS.: Rescue workers pull Stanley Martika, right foreground, from water after auto plunged into creek
FLOOD TOLL RISES
Mountains Without water, power Flood Drops Big Fish
or gas were Stroudsburg. Scran-
ton. Easton, Hazleton, Tamaqua,
Reading, Wilkes-Barre
Pottstown
and
In a Port Jervis Yard
Anxiated Press Wirephotes
eastern Pennsylvania. While the
New Haven Was running its
trains to Boston, not a car was
cultural center, was flooded.
Except in communities where
Stroudsburg Roads Closed braced Itself today against the flooded streams. Observers from was necessary to boil water
for drinking, no immediate
burg and East Stroudsburg-
Roads leading from Strouds-twin menace of hunger and dis- the air saw washed-out roads, danger of food shortages was
ease as it strained
Routes 209 90, 190 and 611-
mop up the railroad tracks buckled, auto-apparent. There was a possibili-
were closed. The Lackawanna its history
debris left by the worst flood in mobiles abandoned and houses ty that milk might be in short
Railroad tracks in the area were
leaning at odd angles.
As murky river waters receded In Monson the figure of a sol- area comes from Vermont and
supply, since most of it for this EAST STROUDSBURG, PA Refugees from flooded areas gather at a center set up to provide food and shelter
under water Eome sections of under a warm sun, the damage dier on a war memorial monu- wide detours are in order
East Stroudsburg were flooded to industrial plants, homes, high-
to a depth of ten feet.
ways and railroad rights of way ment stood alone above a field
Tourists on Way Again

Most of the dead in Strouds-widened.
of mud and silt that was the As today developed hot and
burg were from the Silk Mill
humid, thousands of tourists who
Damage was estimated at over town green. The town actually had been holed up in motels,
natural gas fumes was strong setts Public Works Commission-
Authorities await results of au-er, John A. Volpe said the cost waters of the Chicopee River.
Flat section, where the odor of a billion dollars. The Massachu-was cut in two by the raging hotels and
tourist homes since
Thursday hopefully took to thej
topsies to determine whether the to repair state highways alone
Road at Westfield
Some were continuing
victims were drowned or died would be about $6,500,000.
north Lo continue vacations.
from the fumes
The city of Westfield remained Others were headed to the south
A staff of sixty-six doctors stricken families
State police rushed food to isolated today with the excep- and west to return to their jobs were dead
and severa
in Charlton, tion of a single road to the south
Many businesses were running missing. Most seriously battered wa50,000, was without drinking
and nurses was sent to Strouds-Oxford and Southbridge Only Along this poured a stream of
short-handed in
hurg from Reading to treat the cold edibles were transported be-emergency
homeless and injured.
the isolated were Springfield, Chicopee, Hol- VIRGINIA Three were known
cause cooking facilities and pow trucks.
supply cities and towns because of the yoke and Worcester, but the to be dead, but the worst ap-
The Delaware River creasted er were not available in several
inability of workers to commute danger from flooded
communities.
The Boston and Albany Rail- from outlying areas..
rivers peared to be over Damage was
read out of Springfield is ex-
seemed to have passed. Emer-estimated at three to four mil-
The shortage of water and the pected to be idle for savers!
The narrow back roads, cus-gency kitchens were set up to lion dollars in scattered areas
at forty feet early this morning
smashing a fifty-two-year record
of twenty-eight and orie-tenth
cars and
road.
AS RIVERS RECEDE
Continued From Page 1
were
RHODE ISLAND: One person
flooded Woonsocket and 500
was dead. The Blackstone River
families were evacuated. Almost
the entire city, with a population
water

20 UP-The grim saga of the
PORT JERVIS, N. Y. Aug
flood was eased a bit by what
happened in Austin Crane's
back yard.
Mr. Crane lives along the
bank of the Delaware River.
which surged over its banks
yesterday.
Inspecting his flooded yard,
nine-and-a-half-
pound pike, about thirty inches
he
63W
moving along the Boston and
Albany tracks in he tSpringfield
area.
Grotesque stories of the flood's
wrath were still pouring in. Near
Scranton, Pa. three dead per-
sons were found in second floor
bedrooms of a house that broke
loose from its foundations. In
Winsted, Conn. ham radio
operater-the towns only con-
tact with the outside-broke

[PAGE BREAK]

THE ENCYCLOPEDIA OF SCIENCE FICTION
EDITED BY JOHN CLUTE & PETER NICHOLLS
CONTRIBUTING EDITOR BRIAN STABLEFORD
ST. MARTIN'S GRIFFIN, NEW YORK, NEW YORK
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[PAGE BREAK]

1013
the crews who man giant kites to guard the frontiers against demons.
As an illustrator, KR did much to change the appearance of UK sf magazines, notably Science Fantasy, for which he designed all but 7 of the covers from Jan 1965 until its demise (as SF Impulse) in Feb 1967, and also NEW WORLDS for a period in 1966. His boldly Expressionist covers, line-oriented, paralleled the shift in content of these magazines away from GENRE SF and FANTASY towards a more free-form, speculative kind of fiction. He later did covers and interior illustrations for the book editions of New Worlds Quarterly ed Michael MOORCOCK, for some of whose novels he has also designed covers. He has

illustrated several of his own 1980s titles.
[C]
Other works: A Heron Caught in Weeds (coll 1987 chap); The Natural History of the P.H. (1988 chap), nonfiction, the initials referring to the "Primitive Heroine" who appears throughout KR's work; The Road to Paradise (dated 1988 but 1989), associational; Irish Encounters (dated 1988 but 1989 chap).
See also: ANDROIDS; BRITISH SCIENCE FICTION AWARD; CYBERNETICS; ESP; HIVE-MINDS; INTERZONE; NEW WRITINGS IN SF; RELIGION; SOCIOLOGY; SUPERNATURAL CREATURES.
ROBERTS, LIONEL DR.L. FANTHORPE.
ROBERTS, MICHELE (BRIGITTE) (1949-) UK
poet and novelist, poetry editor of Spare Rib 1975-7. Her novels all tend to FABULATION in their expression of an articulate FEMINIST aesthetic, but 2 are of genre interest: The Wild Girl (1984) vigorously displaces the reminiscences of Mary Magdalene, and The Book of Mrs Noah (1987) similarly engages its heroine in myth-rich concourse with the female icons which engender the stories that make the world (0) MYTHOLOGY). [C]
ROBERTS, TERENCE Pseudonym of Ivan Terence [AD] Sanderson (1911-1973), UK-born US writer and illustrator on the natural sciences, as in Living Treasure (1941), about wildlife around the Caribbean. As TR his sf novel was Report on the Status Quo (1955), a DISASTER story set in 1958-9, when the world is seen to reel under great floods and WWIII. As Ivan T. Sanderson he wrote several books with a relevance to PSEUDO-SCIENCE, including Abominable Snowmen (1961; cut 1968) on cryptozoology, Uninvited Visitors: A Biologist Looks at UFOs (1967) and Invisible Residents (1970) about UFOS and related Fortean matter (D) Charles FORT), Things (1967) and More "Things" (1969) about unexplained mysteries, and the summative Investigating the Unexplained (1972).
[PN]
ROBERTS & VINTER NEW WORLDS; SCIENCE FANTASY.
ROBERTSON, E(ILEEN) ARNOT Working name of UK writer and broadcaster Eileen Arbuthnot Robert- [AD] son (1903-1961), best known for such non-sf novels as Four Frightened People (1931), whose protagonists find themselves making their way through a tropical jungle. It was written to contrast with her sf novel Three Came Unarmed (1929) which, in a striking attack on modern civilization, exposes 3 (Homo superior) enfants sauvages to contemporary England, which destroys them.
[C]
ROBESON, KENNETH
ROBERTSON, J.R. [r] ROBERT HALE LIMITED.

[AD] ROBERTSON, MORGAN (ANDREW) (1861-1915) US writer, almost always on nautical themes; many of his stories are sf or fantasy. The fantasy tales, typical of their maritime venues, tend to the mystical, the fog-girt, the occult and the morose. His sf is similar, though future-WAR tales enliven the tone on occasion. MR is perhaps best remembered for Futility, or The Wreck of the "Titan" (1898 in untraced US mag as "Futility"; 1912 UK; vt with additional material, coll The Wrecking of the Titan, or Futility: Paranormal Experiences Connected with the Sinking of the Titanic 1914 US), which proved uncannily predictive in telling the tale of a great new ship called the Titan which steams at an arrogant pace into a iceberg and sinks. [C]
Other works: Spun Yarn (coll 1898); "Where Angels Fear to Tread" and Other Tales of the Sea (coll 1899); The Three Laws and the Golden Rule (coll 1900); Down to the Sea (coll 1905); Land Ho! (coll 1905); Over the Border (coll of linked stories 1914); The Grain Ship (coll of linked stories 1914).
See also: GREAT AND SMALL.
ROBERT WEINBERG PUBLICATIONS Robert E. WEINBERG.
ROBESON, KENNETH House name for authors writing the Doc Savage series as it appeared 1933-49 in DOC SAVAGE MAGAZINE, published by STREET & SMITH. The Robeson name is most strongly associated with Lester DENT, who wrote all but 43 of the Doc Savage stories; other authors involved in that initial run included William G. Bogart, Harold A. Davis, Laurence Donovan, Alan Hathaway and Rymon Johnson.
3 stories The Man of Bronze (1933; vt Doc Savage: The Man of Bronze 1964), The Land of Terror (1933; vt Doc Savage: The Land of Terror 1965) and The Quest of the Spider (1933; vt Doc Savage: The Quest of the Spider 1972) - were early published in book form. Three decades later the series was brought to life again when BANTAM BOOKS began their republication of the entire run in book form. Variously released as individual titles or in omnibus format, the sequence began with the first title above listed, Doc Savage: The Man of Bronze, in 1964 and ended, complete, 182 stories later with Doc Savage Omnibus #13 (omni 1990). An entirely new sequence was then initiated, with Will MURRAY writing as KR, #1 being Doc Savage: Python Isle * (1991).
The enormously wealthy Doc Savage - aided by 5 sidekicks who specialize in various crafts and sciences at the borderline of sf devotes his life to combating criminal conspiracies, almost all master-minded by the kind of charismatic villain later given definitive form by Ian FLEMING in the James Bond

books. Doc Savage himself clearly influenced the creation of SUPERMAN, and stands at the heart of Philip José FARMER's Wold Newton Family sequence, either in his own name or disguised, with 2 titles - Doc Savage: His Apocalyptic Life (1973; rev 1975) and Doc Savage: Escape from Loki (1991) - devoted directly to him. As the original Doc Savage tales are of only

[PAGE BREAK]

Welcome To The Official Mark O'shea Website
Exotic Island
MARK O'SHEA
Home
Series I
Series 2
Target Species: Luminous lizard, Proctoporus shrevei
Location: Trinidad
Director: Andrew Sheldon
Series 3
About Mark
Port of Spaun
Jade Morgans
Herpetology
FAQ
Tobago
TRINIDAD
ATLANTIC
OCEAN
Venezuela
Guvana
Page 1 of 3
yap Television with
Surmame
Location: The country of Trinidad and Tobago is located off the Venezuelan coast
Totago
TRINIDAD
All
Location: Aripo caves are in the northe.
mountains, the Caroni Swamp is south
Spain.
Mission Statement:
In 1938 "Caribbean Adventure" by British naturalist Ivan Sanderson was published. In his book Sanderson tells how he caught a small lizard in a rocky crevice in the remote Aripo Caves. He writes that, as he drove the lizard out of the crevice, the white-spots down its flanks glowed "like the portholes on a liner". The story of the Luminous lizard was born but quickly refuted by academic biologists who said it was impossible for a terrestrial vertebrate to emit light. Some set out to destroy Sanderson's reputation as a competent observer of wildlife and his later interest in the Loch Ness Monster did not help his situation. Mark teams up with retired

economic botanist and proud 'Trini', Victor Quinnel to investigate Sanderson's claims, made all the more interesting by the fact that nobody has seen a live male 'luminous lizard' since he caught his specimen in the early 1930s. (Only adult males were reported to glow, females and juveniles being less colourful and lacking the red-belly and white spots.) Mark and Victor's first port of call is pay a visit on Sanderson's guide Capriata, now aged 87, who planted an orange pip on the journey. Capriata is too old to join them on the arduous trek so they are accompanied by local guide Caesar. Mark also seeks out other Trini herps and visits the Caroni Swamp to acquaint himself with the large treeboas that live there.
[Mark also meets Lakatan, whose name means 'Banana', a Rastafarian who spent 30 years naked with his family in the Trini jungle. Lakatan introduces Mark to the leatherback turtle beach where his family protect the nesting females and hatchlings heading for the ocean for the predators and poachers. This section did not make the final film.]
Mark O'Shea and 'Trini' botanist Victor
refer to a copy of Ivan Sanderson's 193
"Caribbean Adventure".
http://www.markoshea.tv/series1/series01-10.html
06/23/2004

[PAGE BREAK]

A close view of a male Trinidad luminous lizard (Proctoporus shrevel), note rod venter and white 'port-hole' markings.
Species recorded during 'Exotic Island'
Species
BUFONIDAE
Bufo marinus
DENDROBATIDAE
Mannophryne trinitatis
HYLIDAE
Hyla crepitans
Hyla microcephala misera
Phyllomedusa trinitatis
Scinax rubra
LEPTODACTYLIDAE
Leptodactylus fuscus
Leptodactylus validus
Leptodactylus sp. B (Trinidad)
Physalaemus pustulosus
PSEUDIDAE
Pseudis paradoxus canbensis
DERMOCHELYIDAE
Dermochelys conacea
ALLIGATORIDAE
Caiman crocodilus crocodilus
GEKKONIDAE
Gonatodes ceciliae

Gonatodes vittatus vittatus
IGUANIDAE
Iguana iguana iguana
POLYCROTIDAE
Anolis aeneus
Polychrus marmoratus
TEIIDAE
Ameiva ameiva ameiva
Proctoporus shrevei
Tupinambis teguxin
BOIDAE
Corallus ruschenbergii
VIPERIDAE
Bothrops asper
Common Name
TRUE TOADS
Marine toad
DART-POISON FROGS
Trinidad rocket frog
TREEFROGS
Barking treefrog
Yellow treefrog
Trinidad leaf frog
Banana frog
SOUTHERN FROGS
Striped savanna bullfrog
Trinidad bullfrog
(unidentified bullfrog)
Tungara frog
PARADOXICAL FROGS
Caribbean paradoxical frog
LEATHERBACK SEA TURTLE
Leatherback sea turtle
ALLIGATORS & CAIMAN
Spectacled camian
GECKOES
Variegated gecko
White-banded gecko
IGUANAS
South American green iguana
ANOLES
Garden anole
Marbled bush anole
MACROTEIIDS
Common ameiva
Luminous lizard
Black & white tegu
BOAS
Ruschenberg's treeboa
VIPERS & PITVIPERS
Terciopelo
http://www.markoshea.tv/series1/series01-10.html

Local guide Caesar excitedly hands O'
cloth bag, containing
O'Shea captured this highly venomous
Terciopelo (Bothrops asper) on the trai
caves.
06/23/2004

[PAGE BREAK]

witchcraft instruction and ceremonials from a basement apartment.
Sanders and Maxine were probably the most publicized witches in Britain, with a glossy antiseptic image of white witchcraft, nature cult and a constant battle with the forces of evil. Sanders appeared on radio and television programs and was regularly written up in Sunday newspapers. An account of how he and a young male assistant once casually created a spiritual baby which eventually invaded Sanders' body reads like the worst of Aleister Crowley's occult fiction, from which it may have derived. Like Crowley, Sanders likes exalted titles and has signed letters "Sir Alexander Sanders." For further information, see the biography by reporter June Johns: King of the Witches: the World of Alex Sanders (London, 1969; Pan paperback, 1971).
Sanders, Mrs. Celestine G. (c. 1920)
American trance medium of high standing. Reports on her trance phenomena were published by Dr. J. H. Hyslop in Proceedings of the American Society for Psychical Research (vol. 15, 1921) and by Dr. W. F. Prince in Proceedings of A.S.P.R. (vol. 18, 1924).
Sanders, Rev. C. B. (1831-
?)
A Presbyterian minister of Alabama, subject to nervous attacks from 1854 to 1876, during which a secondary personality, assuming the title of "X + Y = Z," developed and exhibited remarkable powers of telepathy and clairvoyance.
His story is told in X + Y = Z; or the Sleeping Preacher of North Alabama by Rev. G. W. Mitchell (New York, 1876). It appears that the secondary personality had command over the memories of the normal self whereas the primary consciousness remained ignorant of the doings of "X + Y = Z."
There were twelve cases on record in which this mysterious secondary personality could find lost objects, money or jewellery; he could shoot ducks at night which were invisible to his companions and write letters and sermons with his hand completely concealed under the bedcloth. A review of the case was published by Dr. W. F. Prince in

Bulletin XI of the Boston S.P.R.

[AD] Sanderson, Ivan T(erence) (1911-1973)

Scottish-born naturalist, traveler, collector and exhibitor of rare animals, radio and television broadcaster, author. In addition to his many books on nature, travel and zoology, Sanderson also had special interest in such mysteries as the Abominable Snowman, UFOs and Fortean phenomena. In 1965 he founded the Society for the Investigation of the Unexplained.

Born January 30, 1911 in Edinburgh, Scotland, he was the son of Arthur Buchanan, famous whisky manufacturer who also founded the first game reserve in Kenya, East Africa. Ivan Sanderson was educated at Eton College (1924-27), Trinity College, Cambridge (1930-32), University of London (1933-34), MA. honors, Cambridge University 1969. He started collecting animals in 1924, and from 1927-29 traveled around the world collecting for the British Museum. From 1932-33 he was leader of Percy Sladen Expedition to Cameron, West Africa for the

British Museum, Royal Society of London and other institutions.

From 1933-34 he researched at the University of London, and from 1936-37 collected animals in the West Indies, where he also investigated the problem of human rabies carried by bats. From 1934-40 he made an expedition to Jamaica, British Honduras and Mexico, collecting animals and information for the British Museum and Chicago Museum of Natural History.

He was a member of British Naval Intelligence from 1940-45, rising to the rank of commander. He was information and overseas press analyst for the British Government in New York from 1945-57, after which he took up residence in the U.S., engaging in television and radio work from 1947-58.

From 1961-65 he was senior trade editor and special science editor for Chilton Book Co., Philadelphia, freelance writer and editor from 1965-67, science editor of Argosy 1968-70. His first radio show was for the British Broadcasting Corporation in 1930; he also conducted radio and television series in the field of natural science for NBC and other stations in 1948, inaugurated the first commercial color television program for CBS in 1950 and was featured regularly in the Garry Moore program for 1950-58, exhibiting live animals.

In 1959 he made a 60,000 mile trip around the North American continent, studying its phytogeography and basic biotic ecology. As an importer of rare animals, he exhibited them at his private zoo in New Jersey. Unfortunately his unique collection was destroyed by fire in 1953, and a second collection by floods in 1955. Sanderson was a fellow of the Royal Geographical Society, the Zoological

Society, London, and the Linnean Society.
In addition to Sanderson's many contributions to such magazines as Saturday Evening Post, Reader's Digest, American Heritage, Horizon, True, Sports Afield and Saga, he also published the following books (some illustrated by himself): Animal Treasure (Book-of-the-Month Club selection, 1937), Caribbean Treasure (1939), Animals Nobody Knows (1940), Living Treasure (1941), (under pseudonym Terence Roberts) Mystery Schooner (junior Literary Guild selection, 1941), (ed.) Animal Tales (1946), How to Know the North American Mammals (1951), The Silver Mink (fiction, 1952), John and Juan in the Jungle (juvenile fiction, 1953), Living Mammals of the World (1955), (under the pseudonym Terence Roberts) The Status Quo (fiction, 1956), Follow the Whale (1956), The Monkey Kingdom (1957), Abominable Snowmen: Legend Comes to Life (1961; abridged ed. Pyramid Publications, 1968), The Continent We Live On (1961; British ed. titled The Natural Wonders of North America, 1962), The Dynasty of Abu (1962), Ivan Sanderson's Book of Great Jungles (1965), (with editors of Country Beautiful) This Treasured Land (1966), Uninvited Visitors; A Biologist Looks at UFO's (1967), "Things" (1967), More Things" (1969), Invisible Residents: A Disquisition. Upon Certain Matters Maritime, and the Possibility of Intelligent Life Under the Waters of This Earth (1970), Investigating the Unexplained (1972), Green Silence (1974).
He died February 19, 1973.
His Society for the Investigation of the Unexplained continues his work in collecting data and maintaining a library on such subjects as unusual precipitations of animals, earthquake and tornado anomalies, mysterious
1163

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MILFORD CITIZEN
WEDNESDAY, FEBRUARY 21, 1973
DAILY NEWS, WEDNESDAY, FEBRUARY 21, 1973
OBITUARY.
IVAN SANDERSON
Ivan Sanderson, 62, a naturalist, zoologist, writer, and world) traveler, was found dead in his rural home in Warren County, near Columbia, NJ., Monday night, state police at the Blairstown Barracks reported yesterday.

Sanderson,
known to mil-
lions because of
20 books he had
written and his
appearances on
network TV talk
born
in Scotland
and remained a British subject
even though he had lived in the
United States for many years.
Sanderson
in 1961
shows, was
He traveled in more than 60
countries and wrote about their
animals, and their humans, as
well. In 1960, he made a 57,000-
mile tour of North America and
wrote about it in a book, "The
Continent We Lived On.
IVAN T. SANDERSON DIES AT 62
COLUMBIA, N.J-Noted naturalist and zoologist Ivan San-
derson, founder of the Society for the Investigation of the Un-
explained, has died at age 62. Sanderson, an Edinburgh, Scot-
land native and British citizen, was pronounced dead on arrival
Monday at Warren Hospital after his widow, Sabina, found him
in their two story home in rural Warren County.

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4U4A
IVAN SANDERSON,
NATURALIST, DIES
Author of 'Animal Treasure'
Did Radio and TV Series
COLUMBIA, N.J., Feb. 20
(AP)-Ivan Sanderson, the au-
thor and naturalist, died yes-
terday of cancer. He was 62
years old and lived on a farm
here.
Mr.
Sanderson
gained
national attention with his
book, "Animal Treasure," pub-|
lished in 1937.
3 emd dash
Ivan Sanderson
1956

THE NEW YORK TIMES, WEDNESDAY, FEBRUARY 21, 1973

Sally MacDougall Dead at 97; HOWELL E. JACKSON
Feature Writer for The World OF RACING IS DEAD
Special to The New York Times

MILWAUKEE, Feb. 20-Sally, co-workers at The World-Tele-His Bull Run Farm Entries
who began with The World of
MacDougall, a feature writer gram and The Sun gave her a Bore Colors Dating to 1820
silver bowl inscribed:
"Indomitable
newspaper-
New York in 1919 and con-woman, relentless reporter, im-
papers until her retirement in
tinued with its successor news-placable Presbyterian, uncon-
1959, died yesterday in a nurs-
querable Scot. . . ."
ing home here. She was 97
years old and had lived in Mrs. Joseph Urban Dies,
Manhattan's Greenwich Vllage
until two years ago.
Miss MacDougall was steno-
grapher until she sold her first.
feature story to the now-de-

New York School Trustee
Special to The New York Times

BUSHBY-
1973. M
of Mrs.
Christ E
22 at 11:1
In lieu
to Smith
CERIBELL
Beach,
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Memorial
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Do FRANCE
of Rose
Dr. Vin
father
Chapel,
Friday, 9
at Holy
Interment
Island
MIDDLEBURG, Va., Feb. 20 CHERNOV
-Howell E. Jackson, an owner
and breeder of race horses
whose maroon silks are re-
portedly the oldest in the
Mrs. Mary Beagle Urban,
United States, died Saturday.
widow of Joseph Urban, the He was 76 years old.
funct Milwaukee aily News. the North Sea about 170 miles He leaves his wife, the
She was hired in 1910, and her noted architect and designer, former Dorothy Patterson,
Mr. Sanderson, a native of
routine, as she described it, on Saturday, apparently of a daughter of John J. Jackson,
Edinburgh, Scotland, made the
was "society in the morning heart attack, at her home, 27 founder of the National Cash
first of his many expeditions
at the age of 17, between
Moving to New York, she wo
and murders in the afternoon." West 10th Street. She was 91 Register Company, and two
years old.
stepdaughters.
studies at Eton and Cambridge
a place on The World, a daily
Mrs. Urban was a trustee of
University, collecting small ani-
that especially prized good the New York School, the ori-
After World War II service writing by its reporters.
Raced Recently in France
mals for the British Museum. in the Caribbean with British|
ginal building of which was
After receiving a bachelor's
Mr. Jackson, who owned
naval intelligence, Mr. Sander Grover Whalen, the city's greet- 1937 to 1943, and was active in
Once when she wanted to see designed by Mr. Urban, from Bull Run Stud Farm, in recent
botany, he led a small expedi- continued as a prolific writer and someone tried to keep her
degree in zoology, geology and son settled in Columbia and er and a major news source, the
institution's development. years had raced his horses in
tion to the Cameroons in West of nature books for adults and out, Miss McDougall blazed:
She was on the liner Andrea Mrs. Jackson's name and had
Africa, where he spent a year children.

collecting small animals and
Doria when it sank after a col-won some 24 races in France.
Among his more recent books every day. Why the devil can't
"Look here, I talk to God lision with the Stockholm in Stakes
performers Round DEVINE-C
habitat. He was on assignment minable
observing them in their natural were "Elephants" (1959), "Abo- I talk to Grover Whalen?" She
Snowmen:
She leaves a brother, Edward, Top, Music Man and Wanderer
Legend get her story.
from the British Museum and Come to Life" (1961), "The Twice she won annual awards
paced the winners. Never Too
Cridge and London Univer- Continent We Live On" (1961), of the New York Newspaper
Late, an Americ br. 1 and
and "Ivan Sanderson's Book of Women's Ch for a 1943)
ch-trained
at Jules" (1966).
series, "The Wounded Speak
on conforted on out visits to a World N
book "Anima!
1956.
E. W. BOYER
BLOOMINGTON,
19 (A-E. W.
st of
Fb Fr
DELAN
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former C
pointed b
e mother
Sailor B
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and Harr
D. C., Th
send flow
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Foundatio
1973, SUTV
Devine
Prof.
Peter
grand
grains was the t regularly Livin Sain S
son I service hospital and in
tele- for an article about Dr. A
TV pro- Schweitzer, "I Have Found
▼esi-
the
Calif.
Mr. Roye se ved

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mb
New York, New York
Feb. 21, 1973 Wed. New York Times
IVAN SANDERSON,
NATURALIST, DIES
Author of 'Animal Treasure'
Did Radio and TV Series
COLUMBIA, N.J., Feb. 20
(AP)-Ivan Sanderson, the au-
thor and naturalist, died yes-
terday of cancer. He was 62
years old and lived on a farm
here.
Mr.
Sanderson gained
national attention with his
book, "Animal Treasure," pub-
lished in 1937.
3 emd dash
Ivan Sanderson
1956
Mr. Sanderson, a native of
Edinburgh, Scotland, made the
first of his many expeditions
at the age of 17, between
studies at Eton and Cambridge|
University, collecting small ani- After World War II service
mals for the British Museum. in the Caribbean with British
After receiving a bachelor's naval intelligence, Mr. Sander-
degree in zoology, geology and son settled in Columbia and
botany, he led a small expedi- continued as a prolific writer
tion to the Cameroons in West of nature books for adults and
Africa, where he spent a year children.
sities.
collecting small animals and Among his more recent books
observing them in their natural were "Elephants" (1959), "Abo-
habitat. He was on assignment minable Snowmen: Legend
from the British Museum and Come to Life" (1961), "The
Cambridge and London Univer- Continent We Live On" (1961),
and "Ivan Sanderson's Book of
His first book, "Animal Trea- Great Jungles" (1966).
sure," was something of a Mr. Sanderson conducted se-|
novelty in thatit focused on veral series of programs on
anecdotes concerning the ani- animal lifeo n radio and tele-
mals. It was a Book-of-the-vision. Among the TV pro-
Month Club selection. "Carib-grams was the first regularly
bean Treasure" followed in scheduled color broadcast, "The
1939 and "Living Treasure," World Is Yours," on the Colum-,
dealing with Jamaica, British bia Broadcasting System in
Honduras and Yucatan, in 1941. 1951.

[PAGE BREAK]

June 1, 1985
7 Arlmont street
Milford, Connecticut
06460
sabine w. ganderson
c/o situ
P.0.BOX 265
Tittle silver , New Jersey
07739
Dear Mrs. sanderson :
I am writing to you in regards to an request of information
that concerns your late husband Ivan T. sanderson
In mid-
I am presently doing a book on marine monsters please note
that this is not a general book on this subject but one of
extreme serious on the order of Heuvelmans
' wake of the sea serpents
In 1948, sanderson was personally involved with the canta clara
collusion with a sea monster off the North carolina coast
January of this year 1940 he was contacted by a news service to
personally interview the officers who had sighted this animal
and to verified what did actually had occured At a later aate in
1964, he had written an article Mariners beware! , The Lookout
for April 1964, concerning this incident and other signtings
I am aware that he use to keep a diary of nis daily events
and that he may have left additional notes concerning this specific
santa clara incident. Is there a possibility that I may be able to
acquire copies of them to be use in my book that I am writing ?
In the past, I have had several articles published in
pursuit, mostly regarding water and sea monsters , so it does
give an indication of my background
I await your reply on this matter
Dear Mr. Mangiacopra,
a
Sincerely
Degraw
Mangiado?
to have to disappoint you,
but Ivan
I'm sorry
did not keep
diary after 1944 and did not start
do
to save correspondence until the 1960's. His letters
to his mother contain only
contain only personal and business
news, e.g. progress
books
If there are

on this, they would be in SITU's files
on a
lincerely.
any
materials
Sabina W. Sanderson
sened July 12, 1985
gsm

[PAGE BREAK]

cience Illustrated Nov 1948 Nov B Val 3/1
Mc Graw-Hill Pub Co-
Albany, NY
KLAL
HOPE
FOR
THE
deafened!
if
If you're hard of hearing-o1
you have a friend who is■
send for A FREE COPY of the
informative new booklet,
"Modern Science and Your
Hearing." Published by West-
ern Electric, it contains much
valuable, encouraging infor-
mation about deafness-how it
occurs, what science now
knows about helping the deaf-
ened. We'll also send you, free,
information about Western
Electric's newest all-in-one
hearing aids, designed by
Bell Telephone Laboratories.
free
MAIL COUPON TODAY
Western Electric
Dept. 380-S!!!
195 Broadway
New York 7, N. Y.
Send free copy of
"Modern Science and
Your Hearing." Also
booklet on two new
all-in-one Western
Electric Hearing Aids.
Name
Address.
City-
State.

Zone.

LETTERS
TO THE EDITORS

MORE SI READERS than you could shake a stick at are intimately acquainted these colossal fossils. On the left is the baluchitherium, on the right the brontos.

WHAT ABOUT THOSE BALUCHI?

Sirs:

In your illustration of a baluchitherium (How Large Is Life?, August), you show something that looks suspiciously like a reptile. But you said the baluchitherium was the largest land mammal. Am I wrong?

Cincinnati, Ohio

Sirs:

MYRON C. BENNETT

The drawing showed not a baluchitherium (a mammal which was the precursor of the rhinoceros), but a brontosaurus (a reptile, like the other dinosaurs).

NORMAN S. WOOD

Boothbay Harbor, Maine

Sirs:

Why don't you go soak your heads in a bucket of reptile eggs?

Ann Arbor, Michigan

Sirs:

HENRY HEDGPETH

Enclosed you will find my sketch of the true likeness of the baluchitherium. No charge; it's all in the interest of science.

ROBERT E. GILBERT

Kingsport, Tennessee

SI's artist slipped in the primeval mud, came up with the wrong beast. Our illustration was indeed the picture of a brontosaurus. Reader Gili baluchitherium (see above, left) is, h ever, the real McCoy.

LONG STORY

Sirs:

In the August issue you have app ently added 100 feet to the length of Grille in the article Hitler's Super Ya You stated that the yacht is 476 long, but according to the Navy partment's publication 204 of Germ naval vessels, she is only 377. W wrong?

Harrison, New York

JAMES B. STEW
A lot of people. Lloyd's Registe
Shipping, 1948, lists the Grille at
feet. James' Fighting Ships calls it
feet. The Navy Department publicas
to which reader Stewart refers calls
377 feet-which agrees with the so-c
Thames Measurement of the Grille-
a length, but a complex index of
factors. Best guess: 476 feet, as told
SI by present owner George Arida,
should know.
TAKE A DEEP BREATH
Sirs:
I want to congratulate you on
Fascinating History of Artificial Re
ration (SI, August), especially for
easy, understandable way you brou
out the subject through photograp
SCIENCE ILLUSTRAT

[PAGE BREAK]

Sciene Illustrated August
P42,43,82
1948 Vol 3*8

[PAGE BREAK]

How Large Is Life?
A report on the size of things-includ-
ing the startling fact that the largest
animal that ever lived is still roaming
around today...and that you are both
a cumbersome giant and a pygmy,
depending on who is looking at you.
by Ivan T. Sanderson
THE SIZE OF LIVING THINGS is a fasci-
nating study in extreme contrasts.
The giant gum trees of Australian val-
leys reach a height of over 350 feet. At
the other extreme, 68,000 bacteria can
be crowded on the top of a small pin-
head. There is a warm-blooded animal
that reaches a length of 115 feet,
weighs one ton per foot of its length;
and there is a bird so small it can nest in
an eyecup.
The range of size in animals is even
more enormous than these examples sug-
gest-the biggest being 100,000,000,000,-
000,000,000 (one hundred quintillion)

times greater than the smallest.
To look into the matter of size scientifically, it is first necessary to set up some standards of measure.nent. When dealing with animals this problem is fairly easy. All animals are made of some form of protoplasm, which has nearly the same specific gravity as water, so that one gram of weight is roughly equivalent to one cubic centimeter of volume. Thus, weight is a valid criterion for judging the size of animals, and the measurement of weight is easily obtained.
Bulk is hard to measure, even by the displacement method, and it is a dangerous thing to try to estimate. Using weight as a standard, it is possible to classify the animals of this earth and arrange them in ascending order on a scale (see pages 40-41).
To do this it is convenient to take one gram as the starting point and then construct a series of terraces going up-

wards and downwards, each ledge rea senting a tenfold increase or decrea size. All the animals weighing beams one ounce and ten ounces will the first terrace going upwards: all between ten and a hundred ounces second; those between a hundred thousand ounces, the third, and Going downwards, those animals ing between one ounce and a tenth ounce will be on the first ledge those between a tenth and a hun of an ounce, the second, and The number of terraces that wards and downwards depend up size of the largest and of the smal animals that can be found. Once have been found, all the ledge ca counted, divided in half, and the ca weight found of all animals-the a that are neither big nor small. A above this point may then be said a big, all those below, small, and ti can be seen where man, the mou the elephant come in.
Immediately this has been done w amazing things come to light largest living animal happens ri

be the largest creature that hz-
lived. It is the great Blue Whal
due to its massive compact an
lindrical shape, is vastly bull
any of the dinosaurs of byg
Even the mighty Atlantosaur w
thigh-bone longer than the talles
was for the most part tail. lim
neck, and its body was
the size of an elephant
The most gigantic land mam
ever lived, called Baluchithers
had a skull four feet long asid,
eighteen feet in height. could b
up inside a Blue Whale al
mate and one of its offspring 11
elephant ever shot, an Vrican r
measuring twelve feet six inche
shoulder, could stand inside
clea
Whale's skin and have ample
The 115-ton Blue Whale weigh
a ton per foot of its length
there are roughly a million
ton, it can weigh 115 m
Thus, the Blue Whale by its
weight rests on the eighth tot
To find the smallest animal
and ascertain how many ledges
scale it may come, presents
problems. The first of these
termine exactly what an a
This question has long is
The combined height of three sis
equals that of the prehistoric Baluchy

[PAGE BREAK]

losophers, and continues to pester the average high school biology student. First, animals are divided into two great classes-those that are made up of many cells and those, like the amoeba, that are composed of only one cell. These latter are, as a whole, smaller than the multi-celled, or metazoon animals, and some of them are very small indeed. However, there are also both multi-celled and single-celled plants, and it is sometimes impossible to tell whether a single-celled creature is a plant or an animal (SI, Oct. 1947). Then there is the

problem of the parasitic, single-celled plants and animals which are often smaller than their free-living, or non-parasitic, relatives. Below these again come the bacteria which pass ever downward in size to the ultra-filterable viruses, too small to be seen under any ordinary microscope. These strange organisms are on the very threshold between animate and inanimate things; some of the time they may behave as crystals but at other times-when they start to work on a living human body, for example-they are alive. Where then is the limit drawn as to size for animals?

Infinitesimal Things

Bacteria and anything smaller in the scale can be disregarded for, although they are alive, they do not show a complete set of animal attributes. Also, there is a difference between creatures that are definitely animals and those that are obviously plants. Of the remainder, the smallest is an infinitesimal parasitic thing that lives in the red corpuscles of the blood of certain hoofed animals. It is only one ten-trillionth of an ounce in weight, which puts it near the twelfth shelf down the scale.

The smallest non-parasitic animal is a single-celled creature named monas, an infinitestimal oblong of protoplasm about one ninety-millionths of an ounce in weight, thus hovering between the tenth and eleventh ledge down the scale.

If, therefore, the largest animal is nine terraces up
and the smallest eleven down,
the average animal must be one ledge down, which is to say it must weigh a tenth of an ounce. What animals, then, are of this size?

Surprisingly, this place is occupied by the housefly and by the great majority of ants.

Having discovered the limits and the mean size of all animals, it is now found that the average man and woman rest on the fifth step up from the ants. But there have been men weighing as much as a quarter of a ton. It would take a nest of a million ants to make one of him.

This moves him up one ledge and puts him in a class with a surprising assortment of the biggest creatures. He is then found to be only as heavy as the largest lizards-the Giant Komodo Dragons from the East Indies-and smaller than the biggest birds or the biggest jellyfish. This latter monster lives in the northern part of the Atlantic, has a diameter of seven feet, is eighteen inches tall, and has tentacles five feet long and as thick as a man's thigh at the base. It is as bulky as the largest horse. Some shellfish are ten times bigger; in the same class, in fact, as the largest living land animals, the rhinoceroses and the elephants. These are the giant squids with cylindrical bodies weighing up to three tons and tentacles forty feet long. The largest clam weighs, with its shell, as much as a man. This is the Tridacna of the Great Barrier Reef, which is three feet long and can hold a fair-sized tug if it is attached to solid rock and closes its shell on the vessel's anchor. The average man owns only two and a half cubic feet of flesh: Tridacna's is not much less. Some fishes are larger than elephants. These are the barrel-formed basking sharks, as harmless as they are vast, and rivalling the biggest dinosaurs in bulk.

Man or Mouse

Man, then, is really a very big creature, and a mouse, which is a thousand times smaller is still not really small. It would take a thousand average ants to make a mouse, and the ant, as it has been seen, is the norm. A human egg, or ovum, is five places down and an adult man five places up from the one-gram level, so that his size increases by ten billion times during growth. Yet, when he has finished all this growing he barely tops the largest flying bird and the larg est crab in size. The albatross may have a wing-span of fourteen feet but the condor is the largest of all flying birds, and yet it would have to be multiplied by more than ten times to match the great extinct Moas of New Zealand-flightless birds with long legs and necks. not unlike tremendous ostriches. The

largest crab and the greatest of the jointed animals, to which the insects and lobsters also belong, is a spider-crab known as "Mr. Kampfert's Long-handed One," found off the coasts of Japan. It reaches eleven feet when its arms are fully spread.

The Large and the Small

It has been shown that single-celled animals are, as a whole, smaller than the many-celled ones; also that a human egg, which is initially a single cell, is five steps down the ladder. What then is to be made of a single cell, also an egg, weighing ten pounds and being bigger than the average human child when born: Such was the yolk of the egg of a fantastic extinct bird called the dep-yonis, (SI, October, Science on Parade), that lived in Madagascar and probably gave rise to The Arabian Nights story of the Roc. This creature had a head like a long-billed parrot of colossal dimen-sions, a body like a cassowary, and laid its five-gallon eggs in the sand dunes by the Indian Ocean, where they are still sometimes dug up to this day. An egg cell is an exceptional kind of cell and is really "parasitic" in a manner of speaking-at least it is not a free-living entity. However, creatures called num-mulites, which abounded in ancient seas

(Continued on page 82)

but a whole Baluchitherium family, Papa, Mama, and Baby, could nestle inside a Blue Whale

[PAGE BREAK]

Science Illustrated, Vol 3 #8, August 1948
n page

DISCOVERY

Wood Used To Make Whisky

ECENT RESEARCH has taught akan variety of substances from wood. These include:

1. Whisky

Alcohol identical in quality with that now made from grain can be obtained from sawdust, freeing

huge quantities of corn and wheat for shipment to Europe. A plant has already been built which can supply enough alcohol for 25,000,-000 gallons of whisky annually. Present federal regulations, how-ever, prohibit use of such whisky. If these government regulations are rescinded, labels on whisky bot-tles may read "sawdust neutral spir-its" where they now read "grain neutral spirits." You probably wouldn't be able. to tell the differ-ence by the taste, the chemists say. The more than 10,000,000 tons of sawdust wasted each year could supply more than three times the demand for alcoholic beverages. Every ton of wood waste turned into alcohol would replace 20 bush-els of corn or wheat.

2. Sugar

A relatively simple process turns wood into sugar. Researchers find that oak wood treated with a little sulfuric acid under steam pressure yields 45 per cent sugar.

3. Suntan lotions and cosmetics

To produce these substances chemists start with the liquid wastes of the wood-pulp industry. From these they obtain vanillin like the flavoring used in cakes and ice cream. Compounds of vanillin are suitable for making the finished products.

Chemists are paying attention, also, to fuels. They have learned re-cently to distill 100 per cent pure alcohol for use in engines at the cost as ordinary industrial alcohol. And they are experiment-ing with a method for making gaso-line thicker so that it can be han-dled and stored like a solid.

same

The 100 per cent alcohol will prove valuable in countries short of fuel, but it is not suitable for wide use here because it costs more than gasoline.

Some East Indian spiders playfully block wide roads with their webs; others,

large enough to blanket a twelve-by-eight-inch dish, eat birds for dessert.
and which are found fossilized as round, flat discs about the size of a quarter, were free-living, single-celled animals-the biggest that ever lived. Astonishingly, they were larger than the smallest birds, fishes, and frogs, and only just smaller than the smallest manimals, all of which are creatures made up of hundreds of millions of cells.

The smallest mammals are tiny shrews, which are not much bigger than the last joint of the middle finger. The smallest hummingbirds have bodies about the sizes of bumblebees. They weigh only as much as 100 houseflies, and it would take 100,000 of them to make a man. Yet they are by no means the smallest animals with backbones. They are more than ten times bigger than the smallest fish, a tiny relative of the carp found in the Orient, and are nearly 100 times larger than the smallest backboned animal of all. This is a tropical frog delighting in the name of Phyllobates limbatus, that lives on the moist leaves of equatorial forest trees, to which it adheres by means of suction pads, and which carries its tadpoles on its back.

Complex Animals That Are Minute

Some animals incorporating three pairs of jaws, complex eyes, three pairs of legs, nervous, blood, and breathing systems, reproductive organs, and various sense organs are extremely minute. There are, for instance, beetles and wasps smaller than the human ovum, or 500,000 times smaller than a housefly. Some worms, also with complex anatomy, are ten times smaller than that, and the minutest of all multi-celled animals-male, aquatic wheel-animalcules (invisible to the naked eye)-are 100 times smaller again.

21

In dealing, as has been done so fa with mere bulk, a number of oth astonishing facts about the size animals has been missed. For instanc the biggest frog, one Rana goliath of :: Cameroons in West Africa, is as big a Pekinese dog; and tape worms 70

long and dignified by the name
Bothriocephalus latus have been tai
out of the gut of man, which measur
only 32 feet. Some spiders can spin w
across highways on which two trucks ca
pass with room to spare (see abov
There are beetles as big as rats, and
marine worms bigger than pigeons.
The largest living thing, one of
giant redwood trees of California, is
times bigger than the largest whale, and
the smallest virus is 100,000 times smaller
than the little single-celled, free-living
monas. Thus the total range of life is
terraces on the scale. How does this :
into the total scheme of things?
Physicists give exact measurements of
molecules, atoms, and electrons. Mole
cules cover five terraces, a single hydr
gen atom being just 23 ledges dos
Electrons are 50,000 times smaller, goin
down almost to the 28th ledge. "
tronomers and mathematicians have al
computed the sizes of the heave
bodies and of the universe itself. The
earth, for instance, comes nearly 28 t
races up, the sun 33, and the univers
somewhat over 57 terraces up. There ar
thus 85 terraces in all. Even the sun
quite small in relation to the univers.
and there are other universes besid
ours. Measured against this vast scal
everything on this earth becomes rel
fer
tively smaller and smaller. Man may
big when he contemplates the mouse, bu
in terms of the universe the size of each
is equally insignificant.
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[PAGE BREAK]

NEWSPAPER: THE NEW YORK TIMES
LOCATION: NEW YORK, NEW YORK
DATE: 14 SEPTEMBER 1952
NEW YORK TIMES MAGAZINE SECTION
PAGE 24-25, 37, 39
14 Sept 1952 N-Y-Timer section II

[PAGE BREAK]

CHANGE TO
REIS Scandals
NOW PERMA-SIZED
TO KEEP THEIR FIT!
Shrinkage in cotton knit goods was a problem until REIS developed the exclusive PERMA-SIZED method, patent pending. Now REIS SCANDALS and REIS athletic and T-shirts are GUARANTEED to retain fit after laundering or money refunded. So look better, feel better in REIS SCANDALS! Get REIS PERMA-SIZED Underwear today. (REIS SCANDALS manufactured in Canada by the Super Knitting Mills Co., Ltd.)
LONO
WEARING ELASTIC
SECURELY ATTACHED
CONCEALED
FLY OPENING
CONFORMED
LEG OPENING
FOR SHUG FIT
NON-SAO
DART POUCH
LONGER RISE-HIGH WAIST
REIS PERMA-SIZED SCANDAL BRIEFS
FRONT CONSTRUCTION
FOR SUPPORT
WITHOUT STRAIN
SHAPED SIDES
THAT ASSURE
BODY FIT
SEAMLESS FULL
SEAT COVERAGE
Letters
ROSH HA-SHANAH
TO THE EDITOR:
May I call your attention to an error in your calendar of events for September, published Aug. 31
You list Roah ha-Shanah, the Jewish New Year, as beginning on Sept. 21. The observance of Rosh ha-Shanah begins at sundown on Sept. 19, and continues on Sept.. 20 and 21. JOSEPH JACOBS.
New York.
'SAGE ADVICE
TO THE EDITOR
Bertrand Russell's "AB

School Opens-The Educators Examined" (Sept. 7) seemed to me a succinct summary of the spirited discussions that took place this summer in our Philosophy of Education course at Hunter College. The aspiring young teachers who had been brought up under the "traditional" system of education balked at the idea of using only the new, "progressive" methods which John Dewey's philosophy implies. While we conceded that "traditional" education has its faults, our objections to the "progressive" system were almost exactly the same as the ones Mr Russell mentioned. I was very happy to see that our opinions were supported such by those of a great thinker. SUSI HILLBURN.
New York

PROTEST

TO THE EDITOR:
It would be a great pity if uninformed readers should accept Bertrand Russell's criticisms, presumably of British p■■g■■■■iv■ education, as applying equally to American progressive schools. His general discussion in support of the modern type education we can applaud, but we who have taught the American progressive way have to protest most of his criticisma. We cannot admit that the early stages of any learning area have to be dull. Nor can we accept that a "great deal" of the school program should "follow an unquestioned routine." Again we know better.
As to unlimited initiative, that we have never permitted; we have always expected post-

tive guidance by the teacher
Mr. Russell's assertions that
. bad manners result from pro-
Punch
Modern school, Britain: "Isn't
there anything we mustn't do?"
grea■lve education, and that
the progressive school is "too
easygoing" to give "adequate
preparation" for current com-
munity life-both assertions
we reject most emphatically
Perhaps Mr Russell's most
indefensible stateinent, at least
as far as regards our schools,
is that "they tend to sacrifice
citizenship. The exact con-
trary holds.
WILLIAM HEARD KILPATRICK
New York
'NEW APPROACH'
TO THE EDITOR:
'Does
According to Edward Crank-
shaw's "The Question.
Stalin Want War?" (Aug
31) we still live in dreadful
fear of Moscow Yet he quite
convincingly shows, presum-
ably to allay our fear, that
The New York Times Magazine
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SEPTEMBER 14, 1953
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RES PERMA-SIZED T-SHIRTS (with Nylon-strengthened
[AD] $1.25-$2.50

[AD] $1.00-$2.50
Collarette)
REIS PERMA-SIZED ATHLETIC SHIRTS
UND
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REIS
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SPORTSWEAR PAJ MAS
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72
THE COVER-From aircraft carriers as well as land bases constant air attacks go on against Communist forces in North Korea. Here ordnance men of the U. 8. 8. Antietam, carrier with the Seventh Fleet of Korea, holat detonators to bombs on wings of Corsair Bghter-bombers of the carrier's air group. For plc. tures of what goes on at Air Force let band see pages 10 and 11.
Russia cannot afford a war,
nor desiros one.
I believe the Russians fear
us no leas than we fear them.
The Russian tactics are rather
Fabian. They think that by
carrying on a war of nerves
and by waiting, the Western
powers will exhaust and bank-
rupt themselves.
seems to
Mr Crankshaw
have the answer to all this in
his last paragraph: "A new
approach." The old policy of
being tough and not to yield
an inch must be changed to
being fair, and to give-and-
take. Acrimony and calling
names should be changed to
diplomacy and finesse.
WILLIAM J. TRESTMAN
New York.
MOULIN ROUGE

TO THE EDITOR:
I noted with great interest the display about the cinema "Moulin Rouge" in your issue of Aug. 31 One part of the text I would like to call to your attention. Pierre La Mure, author of the book from which the film is drawn, is referred to as a French author. Mr. La Mure has been in America since 1933, and has been an American citizen since 1938. He prefers being described as an American
CONSTANCE BERNARD.
Beverly Hills, Calir.

'CALLING NAMES'

TO THE EDITOR:
A footnote to Dan Jenkins entertaining article, "Calling Names" (Aug. 31) may be in order. My pet peeve about the selection of names for telephone exchanges has always been the use of a state name whose customary abbreviation affects the dialing
As a former Pennsylvanian. I had to fight hard in New York to resist dialing PA rather than PE when calling a Pennsylvania number. And now, in Washington, a call to a GEorgia exchange finds me spinning GA Instead of GE
ERNEST STEWART.
Washington, D. C.

RUSSIAN GENEROSITY'

TO THE EDITOR:
Morton I. Moskowitz in his letter in your columns (Sept 71 refers to "Russian generosity" in permitting President Roosevelt to sit in the center of the Big Three for their photograph during the Yalta conference. However, Stalin, the revolutionary, is shown sitting on the left of Roosevelt, while Churchill, the Conservative, is to his right.

Might one not conclude that
the Big Three were seated ac-
cording to their political con-
victions?
A MORRIS,
Brooklyn.
(Mr. Moskowitz ironically
protested that the seating of
President Franklin Roosevelt
in the central place of honor
in the famous photograph of
the Big Three leaders at Yalta
was an important concession
made by the Soviets.-Editor |
THE NEW YORK TIMES MAGAZINE

[PAGE BREAK]

This is...
Life!
TO
ENJOY
WORK
BY APPOINTMENT WINI MERCHANTS
TO THE LATE KING GEORGE "
HARVEY'S
Recognized
as the
Foremost
Sherries
'BRISTOL'
Sherries
of the World
TO ENJOY PLAY
To enjoy a
GOOD NIGHT'S SLEEP
on a wonderful
QSTERMOOR
MATTRESS
America's Quality Mattress
since 1853
For nearly 100 years
the name Ostermoor
bas stood for supreme
sleep comfort. Famous
Ostermoor mattresses
are built, not stuffed.
Benchmade and band-
tailored yet cost no more.
Box springs to match.
""
See your local dealer or write

"OSTERMOOR'
Chicago 16, Illinois
Bridgeport, Connecticut
"IT COSTS NO MORE
FOR AN OSTERMOOR"
STAMP IT! IT'S THE RAGE/
AS OF ART
METAL
POCKET
RUBBER
STAMP
NYC. RES. ADD 34 SALES TAX
SAMUEL H. MOSS Inc
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SIGNS
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Some cave explorers collect bats like these furry specimens.
(Continued from Page 37)
nent of Australia man has left strange symbols and mystic paintings in caves, and in certain South American grottoes some of the most baffling carvings and inscriptions of all time have been discovered Nor is North America wholly a barren field in this respect, for our Indians and perhaps other races that may have lived here before them left their artifacts and some pictographs under the floors and on the walls of caves. Such odd items as a pair of plaited vegetable-fiber sandals dated by the new radio-active carbon method at 7,000 B. C., have come to light in certain Western caves.

O

NLY since the end of the war, Charles E. Mohr, President of the National Speleological Society of America, found the first prehistoric cave painting known to the New World This is a figure of an Aztec wandor in complete battle dress, done in full color, which Mohr came upon a half mile into the earth from the entrance of a cave in

southern Mexico.

The extraordinary and often unique animal life of caves is perhaps a greater source of wonder to the public than any other aspect of caves. Strange, eyeless creatures crawl and swim about beneath our feet In total darkness forever, unknown to all but a very few specialists. The concept of a whole world of life going on thousands of feet below the surface of the earth la somewhat shocking-at least so it seemed to engineers drilling an artesian well in Alabama when a six inch, eyeleas, pink fish spouted up to the surface with the first gush of water

THE

HE NATIONAL SPELEOLOGICAL SOCIETY has identified, named and listed more than 5,400 caves in the United States, in all states except Delaware, and estimates that there are at least ten times as many still to be discovered. Certain countHes where limestone rocks prevail, like England, Yugoslavia, parts of Africa, Malaya and Venezuela, may have a larger number in proportion to their total land surface but it is hardly posBible even to estimate any exact totals because a cave is a hard thing to define. One cave may have innumerable entrances, or one tiny pothole just large enough for a man to squeeze through may lead to miles, even hundreds of miles. of passages below. There is a cave in Yugoslavia that contains a museum, a theatre and fifteen miles of railway. There are said to be 156 miles of passages connected with our famous Carlsbad Caverns in New Mexico, and it has been esti-

mated that there are more
than 100,000 miles of cavea
under Kentucky alone.
Finally, who can estimate
the extent of the deep under-
ground waterways in which
the blind, pink fish swim for-
ever. One scientist has mapped
the distribution of Bo■■ ■■■-
cies of these fish, and of blind
aalamanders, and finds that
they extend for hundreds of
square miles under the earth.
SPELEOLOGISTS and spe-
Junkers alike have a constant
urge to find their way into
these
worlds
underground
both those known to us now
and those thousands of undis-
covered ones believed to exist.
So, on occasions and for their
own special reasons, do zoolo-
gists, botanists, geologists,
mineralogists, archeologists
and other specialists. And the
tourist has the urge at least
to visit and gaze in wonder-
ment, if not to explore
Possibly the real motivation
of all these cave visitors La
buried in the caverns of their
subconscious. But if you ask
them why, you get all kinds of
answers, only one of which
seems to be shared by many-
adventure or curiosity. Per-
haps, then, as the National
Speleological Society Baya,
caves are the last frontier for
the pioneer. Only a few thou-
sand years ago our ancestors
undoubtedly viewed the world
outside the cave entrance as
the first frontier. We probably
have had enough of this and
Just want to return home
every so often,
HARVEYS
HARVEY'S
CHOICEST PULL PALE

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[PAGE BREAK]

Cave life A "spelunker" runs up to six feet long, a salamander to six inches.
"The most insensible tourist is impressed by crystal columns standing in ice perfection
Why Men Explore the World of Caves
By IVAN T. SANDERSON
E
VERY year a million or so people
visit caves in America Most of

them are tourists spending vacation dollars just to see a sight." But about 2,000 of them are the more adventurous souls who scramble, alide or are lowered into holes in the ground, great or small, for the express purpose of exploring them top to bottom or, as the case may be, from a mountainside entrance to the pitch-dark dead-end of one of nature's labyrinths. These 2.000 are "spelunkers."" as they call themselves who belong to a speleological. or cave exploring. society There are similar groups in more than half the nations of the world. thirty-two, for instance, in Great Britain alone.

The question that immediately springs to mind is what is the lure of the caves? (It is estimated that one In every four Americans has visited one) This is a question that has been asked more frequently of late as a result of

IVAN T. SANDERSON, Bertish-born 100lo. gist, author and cave addict is vice president of National Speleological Society of America.

24

fatal accidenta in caves of Beveral countries notably the recent death of Marcel Loubens, French industrialist and speleologist. in a fall while exploring the 1,153-foot Pierre St. Martin fissure in the French Pyrenees

The reason for cave attraction is not quite so simple as a senior editor of a national magazine once claimed. Admittedly an advanced claustrophobe himself, he dismissed the whole business in Freudian terma

8.8

nothing more than the natural desire of man to Beek Becurity by re-entering the womb. Now it cannot be denied that man does carry around with him such an unconscious longing, and there does seem to be evidence that his interest in cavea increases noticeably during wars and other times of stress and uncertainty. How often have we read of resistance movements or revolutionaries taking to their local caves, today half the Communist forces in Malaya seem to

be using the vast caves of that country as their principal hideouts.
read of benka hiding their records in caves, or bear people express an ardent wish for a deep and isolated hole as refuge against the atom bomb.
We also
But auch utavism is not the whole explanation as an analysis of questionnaires filled out by applicants for memberahip in caving societies has shown. Their answers fully supported by sample questioning of visitors to commercially operated caves and small boys with a penchant for free-lance cave exploration-gave reasons like these for wishing to go into caves-"for exercise," "for sport," "because they are beautiful," "to collect bats," "to study underground water systems." Almost invariably the answers had a note of false modesty or a curious bravado
IT
would seem as if everybody ls born with a natural desire to pop into the first hole that appears in the ground, but is shy of admitting the fact. From this, perhaps, stems the somewhat overbearing demeanor of the "spelunker," and the superior air of the tourist who has just visited a cave. You may have noticed the fluorescent advertising tags for caves flaunted on bumpers of returning automobiles.
The majority of cave addicts give adventure as their principal reason for cave exploring. The slogan of the National Speleological Society of America is "Caves-The Last Frontier of the Pioneer "
And though there can be aplenty of adventure, it is not the main drive which sends ordinary citizens to visit the 125 commercially operated caves in this country. Advertising has made it widely known that some of the most beautiful sights in nature are under the surface of our earth. This, plus signs, artistic lighting effects in the caves themselves, and the provision of every comfort and safety for the visitors constitute the greatest induce-

ments.
Yet the basic explanation for the almost universal lure of caves must be Bought elsewhere. Caves are mysterious: this cannot be denied. They are also strangely comforting, like a foxhole or a reinforced concrete blockhouse in wartime, or a walled city, or even one's home in peacetime. And hereby, perhaps, arises a clue, Caves are, in fact, our natural homes, for the vast majority of all our ancestors lived in them during ninety-nine one-hundredths of the history of our species.
The consensus of scientific opinion is

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inion is
as they stood before man existed."
that man has been around for about a million years, having first become distinguishable from his apelike progenitors at the beginning of the Ice Age
At this point, he almost immediately took to dwelling in caves, especially in the northern hemisphere, in order to survive the ever-increasing frigidity. And be remained in caves until only about ten thousand years ago, almost completing his physical and cultural evolution therein. It is small wonder, therefore, that modern man should retain a vital interest in caves and seize upon the alenderest excuses to revisit them.
If we accept it as natural for us to wish to visit cavea, we may approach them in a spirit of keen expectation tempered by overtones of reverence such as we feel when we enter the old churches of our ancestors in Europe or the tombs of the Pharoahs of An-

cient Egypt. After all, we have every excuse for wishing to revisit our birthplaces.

C

WAVES are of four principal types. excluding ice-caves frequently formed in glaciers and on ice caps both by fissures and by melting Blister-like grottoes may be formed in lava flowing from active volcanoes. quite exten-

"Blister-like grottoes are sometimes formed in lava and extensive passageways may be gouged by nature out of almost any rock."

Wonderlands underground appeal to our spirit of adventure and, perhaps, urge to 'go home.'

sive passages and towering galleries may be gouged out of almost any kind of rock cliff by the action of the waves of the sea, using rocks, pebbles and Band as battering rams and abrasives, and quite respectable caves may be formed when strata of rock are split and then split, in the manner known to geologists as faulting

The vast majority of caves, and all the larger ones. are, however, formed in limestone strata by the slow percolation of water charged with carbonic acid usually derived from the carbon dioxide of the air above or other solvents originating in the roots of plants. like tannic acid. This water dissolves the limestone as it-passes through uny cracks and crevices, enlarging them first to little channels, then to tunnels, and finally to holes of dimensions warranting the term caves.

The actual history of any one cave 1s not, however, quite as simple as this because, once the initial channel is formed, all manner of things may happen. The whole land surface may be raised up so that water no longer flows through the channel, whereupon the cave at■p■ "growing On the other hand the whole landscape may sink Then the cave fuls with standing water and new forms of rock or minerals may be deposited within it, rather than being dissolved away. Then again, pressure or earthquakes may cause portions of the roof to collapse, and sometimes great masses of clay or silt may be

washed into the cave, partially or completely filling it up.
BUT even if none of these things happens and the cave remains moist, all manner of strange formations almost Invariably start to form about its celling, walls and floor. Long "Icicles," or stalactites, of various minerals grow down from the roof and complementary pillars known as stalagmites rise from the floor to meet them. The walls may be completely encased in flowstone, and strange, rimmed poola, brain-shaped masses. objects like flowers, grapes, poached eggs, or even perfect fonts may grow in hidden niches or on unexpected prominences out in the open. The shape, color, size and variety of cave formation is almost unlimited. In one cave in Malaya there is a stalagmite that is over 400 feet tall
Few people realize that caves may be millions of years old, and thus somr of the oldest things in the world are to be found in them There is always something awe-inspiring about extreme antiquity, and even the most insensible tourist may be impressed by a half mule of crystal columns standing in ice perfection today as they stood before man existed on this planet
Perhaps it takes a specialist to ap preciate fully the implications of a crumbling bone or a solitary tooth a hundred thousand years old dug from the sticky red clay of a cave floor. But nobody can fail to thrill to the announcement that footprints of one of our apeman ancestors, impressed into the damp earth floor of a cave in northern Italy 75,000 years ago. were brought to light and photographed only Last year. I have witnessed the rapt expression on the face of an American Indian friend when he was shown a photograph of a footprint of one of hla ancestors that had been found on the floor of a newly opened cave in Indiana.
C
AVES in Europe, especially in Spain, France, Belgium, Austria, and

Yugoslavia-and in Asia and in Africa, have yielded extraordinary data on our ancestry and (Continued on Page 87)

[PAGE BREAK]

Why Men Explore Caves

(Continued from Page 25)

civilization. Ancient men were buried in caves, and such graves with their funeral ornaments tell us much about the religions of these distant times. Most amazing of all, the dawnmen left in caves many magnificent paintings in bright colora depicting the game animals of their time when woolly mammoths and rhinoceroses, reindeer, cave-bears, countless herds of wild horses, and all manner of other now extinct or departed creatures roamed the plains and forests

Europe

S

of

HAGGY ponies complete with primitive fur saddles and strange harness have been found standing frozen stiff in the sub-zero air of caves in Bouthern Siberia. They have two

Cave mushrooms.

been standing there for over thousand years since they were entombed by their masters. In southern tropical Asia there are vast statues of Buddha covered with bat guano; in huge, unexplored caves in Cochin-China and on more than one of the great islands of Indonesia are whole galleries of carved stone gods of completely unknown or forgotten origin in caves deep in

what LB now uninhabited
jungle.
IN
Africa there are vast
caves in the Tibesti Mountains
right in the middle of the now
arid Sahara that are filled
with vivid bas-reliefs and col-
orful paintings of little, for-
malized men and animals,
none of which could have ex-
isted within a thousand miles
area during the last
of the
5,000 years. Far to the south
the primitive Bushmen have
decorated hundreds of other
caves with thousands of simi-
lar action-packed little friezes
depicting all manner of local
fauna and some animals now
extinct.
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Even in the ancient conti-
(Continued on Page 39)
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(Sept. 18-22)
SEPTEMBER 14, 1952
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IVAN SANDERSON doesn't
think that "fireball" was a
meteor.
SUNDAY HERALD, DENDER 19, 1965
55
Ivan Sanderson Doubts "Fireball" Was a Meteor

By IVAN T. SANDERSON
NEW YORK
(NANA)
flew from flight.
are "The Continent We Live and then the Northeast corner seen in Northeast Indiana, a small absolute
amounts. Com- features of the whole perform-glowing, it could not have been
extreme Western New York
In fact the service spokes-
seen from Indiana, Erie, West man was right. it was an ob-
Virginia and Western New ject; it was flying, rather than
MOST NOTABLE is that me- York unless it were close upon falling; and it has not been
teors are usually first seen be- all those points successively. identified,
Ivan Sanderson is a widely
form of geometric curve. The
respected authority on the
fall of material on the ground spotted from either or both was first observed
Now, should it have been Lapeer, Mich., where the thing | tween heights of 30 to 60 miles If it travelled
along at only
pin-points the
unexplained phenomena
passage.
to drop but cease to glow at about 10 16 miles per minute at, say, 50
Me- Northeast Indiana and Erie, something, and the 1,000-foot miles.
But the thing didn't miles up and dropped fiery bits
science, although he is often 9, a fiery, bright-orange ob-turns in their direction
at loggerheads with what he ject, or objects,
of Shortly before sundown on Dec. teorites do not make abrupt either before or after its near-fire near
Elyria, and the drop-glow steadily, as it appeared to earth at the three points
calls the Scientific Establish- Michigan over the tip of On-
of est point of passage, the dis- ping fiery ball and smoke aris- and disappeared as it zoomed Lapeer,
Elyria, and Kecksburg
Further, this "thing"
ment. Among his many books tario and Western Lake Erie,
was would vary but within only there are still other
tances, and thus the speeds, ing from a wood at Kecksburg, cross-country. And if it were how did it
make a 25-degree
curious below 10 miles, glowing or not turn about Cleveland?
On," and his just-published of Ohio, apparently landing in minimum of 120 miles South-pounding the
two distances we ance.
west of its line of travel; over find that the thing appears to
"Book of Great Jungles."
(Julian Messner). He
a densely wooded area about Erie, Penn., which is 95 miles have traveled along at about
asked to try to make some Pa.
was 30 miles, South of Pittsburgh, Northeast of said line; and in 16.5 miles per minute.
sense out of the strange
So, this thing was a meteor;
Its passage was noted by a and Northern West Virginia. was it?
object in the skies seen by large number of people on the So far no computation of the
many Americans last week. ground and by several experi- height at
The minimum speed of a me-
which the

Mr. Sanderson was
thing teor ever recorded as 27,000
phone all night with State pilots.
on the enced commercial and private passed overhead has been made, miles per hour and the maxi-
Patrol desks at the landing
and the only indication of its mum 144,000 miles per hour,
points.'
Bits of it fell near Lapeer, size was a statement by a lady which is to say 7.5 miles per
Lorain County, Ohio, and near in Elyria near Cleveland who second and 40 miles per second
Midland and Kecksburg, Pa. saw it, or a part of it, fall into respectively. Since when have
Something also blew up in the a wood where it set grass afire meteors or bolides, which is
of Detroit-Windsor,
air over Lake St. Clair, East over a 1,000-ft. area. She said the name now given to meteors
planes in the area with sharp
rocking it was as big as a volley-ball. that break up in our atmos-
shockwaves.
Thus, we do not know if it phere, been ambling along at
was possible for it to have been 16 miles a minute?
Pin-pointing these
observa-seen at these distances from
tions on the map shows that its line of travel. But if it was
AS EVER, almost within the
the object or objects passed in indeed seen at these distances, hour of the observations, a pro-
East of Flint, Michigan, over arise.
a straight line from somewhere a number of other odd points fessor of something or other
Lake St. Clair to Oberlin and
# #
announced that it was prob-
Elyria, near Cleveland, Ohio, THE EXACT TIME of the ably a meteor or a bolide.
in a Southeast-by-Southerly di- fall at Elyria was 4:44 p.m.
rection and then made a
In this case it was a Dr. Paul
degree turn to the East.
25- Observation of it at Erie was Annear of Baldwin-Wallace
at 4:50 p.m. The distance be- College, and right behind him
From that point the line of tween the two points is 115 came a confirmation of his be-
via miles as the crow flies. How-lief by the Pentagon.
travel was again straight,
Midland to Kecksburg.
ever, there is no evidence that
of
There is no possibility
converting this course into any
were on the scenes of the falls
almost as fast as the State
Police.
the thing passed directly over
Yet, though bolides land al-
most every day and are ig-
at that time and it may have
Erie; it was seen from there nored or at the most searched
for only by enthusiastic ama-

been seen traveling its straight teurs, great contingents of spe-
Southwest at its nearest point.
course which was just 95 miles cialists from the armed forces
This would be about Salem,
Ohio. Salem is 70 miles from
Elyria, so that the object took
six minutes to travel 70 miles, One of the military "spokes-
or only 11.5 miles per minute. men" stated for the record;
Similarly, the nearest point "We don't know what we have
to Indiana on the thing's line here (but) there is an unidenti-
of travel is the town of Utica, fied flying object in the woods."
Mich., about 25 miles East of Neither meteorites nor bolides
Pontiac. This is just 95 miles fly; they fall. What's more,
from Elyria as the crow flies, they don't just drift in at 16.5
so that, if this was the point miles per minute.
where it was seen from In-
diana - at precisely 4:40-it
Then, apart from the odd re-
took four minutes to cover the port of two piles of shredded
distance, or about 23.5 miles lead in strips only 1-16th of an
per minute.

[PAGE BREAK]

Cave life A "spelunkt
FURB up to sie feet long, a salamander to sx inches
The most insensible tourist is impressed by crystal columns standing in ice perfection
Why Men Explore the World of Caves
By IVANT SANDERSON
E
VERY year a million of so people
VENIT cases in America Most of
them are tourista speraling vaca-
tion deltars just to see a sight But
alsat 2.000 of them are the more ad-
Veritiarous souls who scramble aide or
are lowered into holes in the ground
great or small for the express purpose
of exploring them top to bottom or as
mountainside
the may be from a
entratice to the pitch dark leadend of
one of nature labyrinths These 2.000
an they
rall them
who belong to a speleological
There are
mire than half the
nations of the world thirty-twe for
instance in treat Britain wine
The question that immediately spring
what the Ture of the

St ontimated that
every four Americans has visited one
This is a quests that has been asked
more frequently late as
IVAN T SANDERSON Stab see pole
fatal accidents in caves of several coun-
tries notably the recent death of Mar
cel Loubens French industrialist and
speleologist in a fail while exploring
the 1.151-foot Pierre St Martin fissure
in the French I'yrenees
The reason for cave attraction is not
quite simple as a senior editor of a
national magazine once claimed Ad-
mittedly an advanced claustrophobe
himself he dismissed the whole bus-
nes in Freudian terms as nothing
more than the natural desire of man to
Beek cunty by re-entering the womb
Now it cannot be denied that man does
carry around with him such an uncon-
scious longing, and there does seem
De evidence that his interest in caves
Increases noticeably during wars and
other times of stress and uncertainty
How often have we read of remstance
movements or revolutionaries taking
their local caves today half the
in Malaya seem to
Communist
be using the vast cases of that country
As their principal hi tenuta
We also
read of banks hang their records in
caves ir bear people express an ardent
sh for a deep and lated bole as
refuge against the alien bomb
But much stavism is out the whole
explanation as an analysis of question-
halres filled out by applicants for mem
berahip in caving societies has shown
Their answers fully supported by
sample questioning of visitors to com-
mercially operated caves and small
a penchant for free-lance
boys with
cave exploration
TWILSONS Like
for
these for wishing to go into caves
exercise, for sport because they
are beautiful to collect bats."

study underground water systems
most invariably the answers had a note
of false modeaty or a curious bravado.
Lo
would seem as if every body is born
with a natural desire to pop into the
first hole that appears in the ground
but is shy of admitting the fact. Frum
this perhape stems the somewhat over-
bearing demeanor of the spelunker,
and the superior air of the tourist whe
han bust visited A cave You may have
Natived the fluorescent advertising tag
for Aves flaunted on bumpers of re-
turning automobiles
The majority of cave addicts give
niventure as their principal reason for
Ave exploring The slogan of the Na-
tional Speleological Society of America
18 "Caves The Last Frontier of the
Pioneer And though there can be
aplenty of adventure, it is not the main
drive which sends ordinary citizens to
visit the 125 commercially operated
caves in this country Advertising has
made it widely known that some of
the host beautiful mghts in nature are
under the surface of our
Thin
earth
plus signs, artistic lighting effects in
the caves themselves, and the provuation
of every comfort and safety for the
visitors constitute the greatest induce-
ments
the basic explanation for the
Yet
almost universal lure of caves must be
sought elsewhere Caves are mysterious
this cannot be denied They are also
strangely comforting like a foxhole
or a reinforced concrete blockhouse Ln
wart me, or a walled city, or even one'
home in peacetime And hereby, per-
haps arises a clue Caves are, in fact
mur natural homes, for the vast major
ity of all our ancestors lived in them
during ninety-nine one hundredths of
the history of our species
The consensus of scientific opinton is
THE NEW YORK TIMES MAGAZING
as they stood before man existed."

that man has been around for about a
million years, having first become dis-
Linguishable from his apelike progeni-
torn at the beginning of the Ice Age
At this point he almost immediately
took to dwelling in caves, especially in
the northern hemisphere, in order to
survive the ever-increasing frigidity
And he remained in caves until only
about ten thousand years ago, almost
completing his physical and cultural
evolution therein It is small wonder.
therefore, that modern man should re-
tain a vital Interest in caves and seize
upon the slenderest excuses to revinil
them
If we accept it as natural for us to
wish to visit caves, we may approach
them in a spirit of keen expectation
tempered by overtones of reverence
such as we feel when we enter the old
churches of our ancestors in Europe
or the tombs of the Pharoahs of An-
clent Egypt After all, we have every
excuse for wishing to revisit our birth-
places
CAVES are of four principal types
excluding ice-caves frequently formed
In glaciers and an ice capa both by
fissures and by melting Blister like
grottoes may be formed in lava flow-
Ing from active volcanoes, quite exten-
SEPTEMBER 14 1952
"Blister-like grottoes are tometimes formed in lava and extensive passageways may be gouged by
mature out of almost any rock."
Wonderlands underground appeal to our spirit
of adventure and, perhaps, urge to 'go home.'
Kive pannages and towering galleries
may be gouged out of almost any kind
of rock cliff by the action of the waves
of the sea uning rocks, pebbles and
and a battering rams and abrasives.
and quite respectable caves may be
formed when atrata of rock are split
and then split, in the manner known
to geologists an faulting
The vast majority of caves, and all
the larger ones are however, formed
in limestone strata by the slow perco-
lation of water charged with carbonie
acid usually derived from the carbon
dioxide of the air above or other sol-

venta originating in the roots of planta
like tannic acid. This water dissolves
the limestone as it passes through uny
cracks and crevices, enlarging them
first to little channels then to tunnels,
and finally to holes of dimensions war-
ranting the term caves
The actual history of any one cave
is not, however, quite as simple as this
because, once the initial channel in
formed all manner of things may hap
The whole land surface may be
pen
raised up so that water no longer flown
through the channel whereupon the
cave stops growing On the other hand
Then
the whole landaçape may sink
the cave fills with standing water and
new forms of rock or minerals may be
deposited within it, rather than being
dissolved away Then again, pressure
or earthquakes may cause portions of
the roof to collapse, and sometimes
Kreat masses of clay or silt may be
washed into the cave partially or com-
pletely filling it up.
BUT even if none of these things
happens and the cave remains moist all
manner of strange formations almost
invariably start to form about ita cell-
ing walls and floor Lang icicles, or
stalactites, of various minerals grow
down from the roof and complementary
pillar known a stalagmites rise from
the floor to meet them The walls may
be completely encased in flowstone
rimmed pools, brain-
and strange
shaped masses, objects like flowers.
grapes, poached eggs, or even perfect
fonts may grow in hidden niches or on
unexpected prominences out In the
The shape, color size and va
open
riety of cave formation is almost un-
limited
In one cave in Malaya there
In a stalagmote that is over 400 feet tall
Few people Tealize that cave- may
be millions of years old and thus som
of the oldest things in the world are

to be found in them There is always
something awe-inspiring about extreme
antiquity and even the most inernible
tourist may be impressed by a half
mile of crystal columns standing 5
Ice perfection today as they stood be
fore man existed on this planet
Perhaps it takes a specialist to ap
preciate fully the implications of a
crumbling bone or a solitary footh
hundred thousand years old tug from
the sticky red clay of a cave floor But
nobody can fat to thrill to the K
nouncement that footprints of one of
our opeman ancestors impressed inte
the damp earth floor of a ave in north
Cm Italy
75.000
years
were
brought to light and photographed only
Last year I have witnessed the rapt
expression on the face of an Amen an
Indian friend when he was hir
photograph of a footprint of one
hla ancestors that had been found on
the floor of a newly opened
Indiana
C.
AVES 5
Europe, especially
Spain France Belgium Austria and
Yugoslavia and in Asis and in Africa
have yielded extraordinary data our
Continued on Pour 37
ancestry and
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[PAGE BREAK]

Why Men
Explore Caves
(Continued from Page 25/
civilization Ancient men were
buried in caves. and such
ETAVes with their funeral orna
ments tell us much about the
religions of these distant times
Most amazing of all, the dawn-
men left in caves many mag-
nificent paintings in bright

colors depleting the game animals of their time when woolly mammoths and rhinoceroses. reindeer, cave-bears, countless herds of wild horses, and all manner of other now extinct or departed creatures roamed the plains and forests of Europe

SHAGGY ponies complete with primitive für saddles and atrange harness have been found standing frozen stiff in the sub-zero air of caves in Bouthern Siberia

They have

Some cave explorer collect bats like these furry specimen

Continued from Page 3

nent of Australia man has left strange symbols and mystic paintings in caves, and in certain South American Frolloes some of the most baffling carvings and Inscriptions of all Lime have been discovered

Nor is North America wholly a barren field in this respect, for our Indians and perhaps other races that may have lived here before them left their artifacts and some pic tographa under the floors and on the walls of caves. Such odd items as a pair of plaited vegetable-fiber sandals dated by the new radio-active car bon method at 7.000 BC. have come to light in certain Western caves

O

NLY since the end of the war, Charles E Mohr President of the National Speleological Society of America, found the first prehistoric Cave painting known to the New World This in a figure of an Aztec warrior in com. plete battle dreas, done in full color, which Mohr came upon & hair mile into the earth from the entrance of A cave in

southern Mexico.
The extraordinary and often unique animal life of caves is perhaps greater source of wonder to the public than any other aspect of caves Strange eyeleas creatures crawl and wwim aboth beneath our feet In total darkness forever, unknown to all but a very few specialista. The concept of a whole world of life going on thousands of feet below the surface of the earth is somewhat shocking at least so it neemed to engineers drilling an artesian well in Alabama When a six inch, eyeleas, pink fiah spouted up to the surface with the first gush of water
THE NATIONAL SPELEO. LOGICAL SOCIETY has iden tified, named and listed more than 3,400 caves in the United States. in all states except Delaware, and estimates that there are at least ten times a many still to be discovered Certain countries where lime stone rocka prevail, like Eng land, Yugoslavia, parts of Africa, Malaya and Venezuela may have a larger number in proportion to their total land surface but it is hardly posmble even to estimate any exact tolala because a cave in a hard thing to define. One cave may have Innumerable entrances, or one tiny pothole Just large enough for a man to squeeze through may lead to miles, even hundreds of miles. of pasanges below. There is a cave in Yugoslavia that con-Inina a museum, a theatre and fifteen miles of railway There are said to be 156 miles of pas-Bages connected with our famous Carlsbad Caverna in New Mexico, and it has been estimated that there are more

than 100,000 miles of caves
under Kentucky alone
Finally who can estimate
the extent of the deep under-
ground waterways in which
the blind, pink fish swim for
ever One scientist has mapped
the distribution of some sp
cies of these fish, and of blind
salamanders, and finds that
they extend for hundreds of
square miles under the earth.
PELEOLOGISTS and spe
Junkers alike have constant
urge to find their way into
underground
these
worlds,
both those known to us now
and those thousands of undia
covered ones believed to exist
So, on occasions and for their
own special reasons, do zoolo-
Klata, botanists geologists
mineralogists, archeologista
and other specialista. And the
tourist has the urge at least
to visit and gaze in wonder-
ment, if not to explore.
Possibly the real motivation
of all these cave visitors la
buried in the caverns of their
subconscious But if you ank
them why, you get all kinds of
answers, only one of which
seems to be shared by many
adventure or curiosity
Per-
haps then, as the National
Speleological Society ys.
caves are the last frontier for
the pioneer Only a few thou-
sand years ago our ancestors
undoubtedly viewed the world
outside the cave entrance M
the first frontier We probably
have had enough of this and
just want to return home
every so often
two
Cave mushrooms.
been standing there for over

thousand years since
they were entombed by their
masters In southern tropical
Asia there are vast statues of
Buddha covered with
KUADO.
bat
In huge unexplored
caves in Cochin-China and on
more than one of the great
Islands of Indonesia are whole
galleries of carved stone goda
of completely unknown or for
Kotten origin in caves deep in
what
Jungle
now uninhabited
IN Africa there are vast
caves in the Tibesti Mountains
right in the middle of the now
arid Bahara that are filled
with vivid bas-reliefs and col-
orful paintings of little, for-
malized men and animals
none of which could have ex-
lated within a thousand miles
of the area during the last
5,000 years Far to the mouth
the primitive Bushmen have
decorated hundreds of other
caves with thousands of alm)-
lar action packed little friezes
depicting all manner of local
fauna and some animals now
extinct
Even in the ancient conti-
(Continued on Page 89
SEPTEMBER 14. 1957

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13
BROCHURE NO. 4
Suggestions for the Obtaining
of larger Zoological Specimens
for Scientific Study
By:
Ivan T. Sanderson
The following are merely suggestions as to how
larger animals may be obtained for scientific study,
based on some years of field work on behalf of
leading museums and zoos, and information accum-

ulated over many years on hunting and collecting methods employed by others since prehistoric times up to the present day.

The following notes are concerned almost exclusively with forested areas, and primarily with the taller closed-canapy forests both of the equatorial and subtropical regions, and the temperate and subarctic. Quite different methods are normally employed in orchardbush and parklands, savannahs and prairies, and on scrublands and hot and cold deserts. These are noted in passing just in case any such country occurs within the forested areas being investigated.

Mountain forests are somewhat different to lowland forests in that, whether they be multi-tiered or not, the former almost always have a thick undergrowth at ground level, while the latter may often be almost clear below and in such cases as the valleys in the Oregon Coastal Ranges be true Gallery Forests with no foliage at all between a very short ground cover and the first branches some fifty feet up. Higher Montane or Mist Forests present other special problems

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Organization

Before proceeding to discuss the actual collecting techniques, a few words are necessary on the general subject of overall organization. Too often, amateurs attempt collecting enterprises along the lines of "hunting trips". This is disastrous, for continuity is impossible, some half the time is taken up with the bare procedures of living, and if a specimen be obtained it cannot be properly preserved. In fact, without proper and specialized organization any effort is worthless in this field; and, willy-nilly, the enterprise becomes what is commonly, though often somewhat euphemistically, an "expedition". This is itself a specialized activity.

Note: Aside from any other considerations, no expedition should ever consist of less than three people; and no party in the field should ever be less than three. The significance of this will appear later, but it implies that there will have to be some doubling up of major duties as outlined below if the whole initial party is less than seven.

Departments. It does not matter how you figure it, or how you try to cut corners, the following departments have to be taken care of; and each requires careful planning, the preparation of lists of desiderata down to the last smallest item, budgeting, and, in the case of Nos. 2 to 6, most careful selection at time of purchase; classification%3B and very special packing. More even then a golden rule, in fact an essential, is that these departments be kept absolutely separate at all times. Further, the same numbers 2 to 6, call for two separate sets of lists. These are:

(1) Equipment that must at all times be in working order.
(2) Supplies that are expendable and must be restocked.

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BROCHURE NO. 4
Actually, the officer in charge of each dept., even if doubling up, should check his supply lists every day, for items can run away from one in special circumstances, and obtaining fresh stocks may take varying lengths of time, so that reorders have to be placed at the earliest, and the requests sent on their way to the source of supply.
(1) Finance. This should be in sole charge of the leader of the expd, who alone should be able to draw on and disburse monies. However, powers of attorney should be signed before leaving for the field with at least two deputies, so that they may obtain funds should anything happen to the leader. Considerable cash, in small change, local currency, should always be carried. A set of books should be kept, and a daily record of expenditure balanced at least once a week against petty cash. There should be an audit after the work is over.
(2) Transport. After the means of transport have been mutually agreed upon by the expd personnel and the sponsors, the entire emplementation throughout the trip should be assigned to one officer, and he be made responsible for it. The whole enterprise depends on your transport, and there just cannot be breakdowns (which there will be) that cannot be fixed, or for which alternatives have not been provided.
(3) Commissariat. This includes also what is commonly called on an expd. "household", being housing, bedding, lighting, as well as food and the means to prepare it. Once in the field, this really becomes the most important not only because good regular meals are needed, and dry camping conditions maintained, but simply because a great deal of time, and at the most important times of the day, are otherwise wasted by the collectors. In fact, there should always be a paid

employee to handle this department; and it alone.
(4) Collecting. (For this, see below.)

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BROCHURE NO. 4
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Mont
(5) Preserving. (For this, see my separate brochure No. 5).
(6) Recording.
corder.
One senior member of the initial personnel should be assigned before going into the field as Re-
This individual should assemble, pack, and maintain his own equipment and supplies. He may do the technical recording of the Preserving on behalf of its operatives, but his more essential work is to keep a diary, and be responsible for the investigation of the environment and everything in it other than the actual animals being collected. Also, he should handle the mail, and write all reports, even for the Leader, if he is not himself that person. Finally, he should be assigned all the writing of stories, news-releases, and other material after the expd, and even the preparation of scientific papers if he is
His records must be kept sep-
one of the scientists.
arate from those of the technicians doing the Pre-
serving.
(7) Public Relations. This is a great deal more important

than is generally supposed, as it includes legal
matters, official contacts, public relations, pro-
motion, and publicity, or the suppression of same.
The officer responsible need not be a member of the
The ideal is to have somebody handling
Field Party.
this dept. at the nearest point where normal living
conditions obtain, to act as executor of several
matters such as reorders of supplies, communications,
If not, he or she may be at home.
and so forth.
In this case the leader will have to handle all
matters in the field but report in detail regularly
on these matters, as separate from other reportage.
The PR man should be kept as fully informed as
possible of everything throughout, and as fast as
possible; and should receive all reports or copies of
reports regularly and every time a mail is sent out of
the field.
We would stress that an Expd. can not get along without
these seven separate departments of activity or without
maintaining all of them with the strictest discipline and
Records are more important than specimens;
self-discipline.
and without them the whole enterprise may at any moment
collapse and become an entire waste of time. Also, without
them at the end, the enterprise might just as well not have
been initiated in the first place.

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Collecting
Methods of obtaining wild animals, dead or alive, were
initially developed in prehistoric times as we know from
cave-paintings. Many of these original methods are still in
use and are the most effective. However, since the in-
troduction of firearms, and more especially and more recent-
ly that of stun-guns, odorless gases and poisons, and even

more particularly of baits founded on sexual attraction, the picture has changed considerably.
There are almost endless variations to each of the methods listed below but these details need not concern us (in the case of ABSMs) except in a few cases. It is my personal opinion that in this case none of the active methods will work due to the nature of the creatures, though walking-up by tracking might work. It is also very doubtful that trapping would be effective except with spring-guns, large bear-traps, or drop-logs or spears. Netting, per se, would be useless and unless the nets were manned at all times; though a thrown net might be very effective in a face-to-face encounter if the operator were very skilled and experienced. I personally have my doubts about poisoning, at least without most careful baiting.
--
Collecting methods in the widest sense -- i.e. methods of obtaining larger wild animals dead or alive fall under two major heads and seven subheads as follows:
I. ACTIVE
(1) Walking-up (Tracking, Drifting, Stalking, etc.)
2) Riding-down (to Shoot, Slash, or Lasso.)
(3) Driving (into nets, keddahs, off cliffs, into water, etc., by beaters, fire, gas or flooding.)
II. PASSIVE
{2}}
3+
Netting (previously strung nets to entangle)
Trapping (pitfall, drop-log, gin-trap, nooses, etc.)
Poisoning (by food, water, or gas.)
Baiting (1.e. "Waiting'
" for animals to be attract-
ed to you by curiosity or baits, to then be shot or stunned)

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I will now discuss each of these, seriatim, with special reference to (a) forested conditions, and (b) the supposed nature of ABSMs, giving some recorded examples of occurrences that are pertinent to our real problem.

IT CANNOT, HOWEVER, BE OVERSTRESSED AT THIS POINT THAT WE ARE HEREIN CONCERNED WITH THE OBTENTION OF SPECIMENS FOR SCIENTIFIC EXAMINATION NOT WITH MERE HUNTING, FOR SPORT, FOOD, OR TROPHIES.

The two objectives are entirely different and opposed, and matters that may be highly effective in one case are useless
Further, we must not forget that, in the case
in the other.
of ABSMs, we may more than likely be dealing with creatures that have all the phenomenal instinctual efficiency of other animals combined with what may even be a very high degree of intelligence, and commonsense of the human. Also, while they have been "warred upon" for millenia by Man, they are not customarily (or "used" to being) hunted, which provides them with even more special faculties. This needs explanation.

Behaviour of wild creatures, animal and human. Much work and observation has now been done on this, and the findings turn out to be almost exactly the opposite of what had been
It used to be supposed that all animals
previously supposed.
could be divided into two classes: The Hunted, and The Hunters; the first being herbivorous, the second carnivorous. Further, it was assumed that the first were cautious, wary, and nervous%3B the latter bold, self-assured, and indifferent
This turns out to be utterly wrong.
to lesser creatures.
Lions may faint at the sight of flapping laundry, but lie down back to back with an antelope of a kind on which they
Some of the ox tribe are bold and totally
customarily prey.
indifferent to hunters and very aggressive, while a jaguar may bolt if you shout at it.

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BROCHURE NO. 4

The really mysterious thing that has been discovered is
that among both hunters and hunted there are two types of
there are those that are "used" to being hunted
behaviors:
or attacked, and those that are not. But even more
extraordinary, it now transpires that the former are often
the most blas■, while the latter are almost invariably the
most nervy, cautious, and flighty.

Two examples will suffice to explain this. The first, of
an animal used to being hunted, was a herd of large gazelle
grazing on a savannah which were being stalked by a Cheetah.
The gazelle sentinels spotted the cheetah early but went back
When the cheetah rose and made his final dash,
to grazing
the gazelle herd simply parted to let him through but one
The cheetah went straight
sickly gazelle took off in panic.
for this, overtook it rapidly, killed it, and lay down to
feed. The rest of the gazelle herd went back to grazing,
and never even moved.

The other example is that of human (or subhuman) behavior.
There was a dwarf race of the Australoid race indigenous to
They were virtually without culture
the island of Tasmania.
and at such a low level that they were classed as a subspecies
of humanity, and their numbers rapidly declined after the
Then they became troublesome by
arrival of the whiteman.
raiding stock and farmsteads, and it was decided to clean
Thousands of armed men strung
them all out of a peninsula.
out across the head of this peninsula, and walked almost
Not one single Tas-
shoulder to shoulder out to its tip.
That fall there was a drought, and not less
manian was seen.
than five hundred of them came out of that peninsula looking
Tasmanians were not "used" to being hunted.
for a hand-out:

No more need be said of the facts but it must be stressed
that ABSMS have nowhere, ever, been official "game" and so
lack the "attitude of resignation" of the gazelle. They are
too intelligent for the big carnivores and may possibly even
have tamed them since earliest times and let them do their
Thus, we've got a real
if they eat any meat.
hunting

Let us therefore examine and try to assess
problem here.
the value of the seven types of collecting in face of this
problem:
(1) Walking-up.
feasible.
This is, or at least could be in part,
However, the efforts of even the most
experienced tracker could in our case be set at nought
by the very fact that ABSMS apparently have a far
better

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and more acute set of senses than any man, and would either just move perpetually ahead, to the side, or even follow the hunter to signal his movements. Even if the hunter smeared himself with ABSM excrement, as elephant hunters do with elephant dung, it would probably do not good in thick forest because the ABSMS coming to inspect him would keep out of sight and later out of reach for they would see him before he did them. "Drifting", on the other hand, and after having established a camp and baited, might be worthwhile because an ABSM might try to attack you and you might get a shot.
(2) Riding-down. To all intents this is just not pos-

sible in the kinds of forests said to be inhabited by ABSMs. And in any case, why ride it down for, if you can see it, you can shoot it.

Similarly, and especially in view of the

(3) Driving.

Tasmanian affair, I personally consider this to be useless, unless one got a group of ABSMS clobbered on a small island and then called out the Marines. Even then, there is much evidence that most ABSMs are almost semi-aquatic, and that they can duck into water, remain a long time below, and swim very fast and far. You'd never get them to go over a cliff even with fire, and they would probably simply come straight back at you and go through your line without anybody either spotting them or getting a shot at one. They could climb any keddah even if they went into it, and they would not become entangled in nets for long. A gas attack would be something else, and might prove effective if you had a lot in a small space but I can't see the humanitarians letting one get away with this procedure.

(4) Netting.

Although the great apes can be netted and seem no more able to understand the thing than any lower animal, an ABSM with higher intelligence but great strength (and no claws to become entangled in a net and so be pulled out on its struggles) would probably, by biting and pulling, work out of any net in short order.

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Of course, if a strung net be under observation from trees all along, and the watchers had powerful lights and guns, one might be obtained but I have a fancy that an ABSM would already know the net had been strung simply by watching the process from hiding or by its superior senses of smell, etc.

(5) Trapping. Here there are real possibilities though I do not think that it would be worthwhile trying to devise or set-up any live-trap. An in-sloping-sided pit might keep the specimen in but again it would probably know of the trap in advance by watching or smell. Also, ABSMS don't use regular paths. Drop cages would never do because of the smell of their metal or of the men building them if of wood. On the other hand, spring-guns, large gins, or drop-logs might be effective but only if a long period of prior baiting had been indulged and the ABSMS had got used to prowling around at night to pick up said bait (which incidentally must have both the "come-on" and some desirable edible combined). Novelties such as

these traps near your camp might fool the ABSMS once they had gotten used to your smells and sounds vide: the Booby-Traps used in the war, which fooled even the most experienced infantrymen. There are some most ingenious traps, the worst of which that I know of is an automatic Bolas that is trip-fired and calculated to ensnare and stun anything.
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(6) Poisoning. I lay considerable store by this. Today, there are some of the most deadly, tasteless, odorless, and apparently really undetectable chemical poisons available. But even more important, the indigenous natives of many tropical countries have scores of just as deadly vegetable poisons that simply cannot be detected by autopsy after death or by any known chemical analysis. If the Amerinds in B. C. have such, and would divulge them or supply them, real results might be obtained but then only after
1-
Baiting. Even the most subtle poisons would be avoided by ABSMS unless they had already been "hooked" by baiting, simply because of the smell of the men putting down the bait.

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(7) Baiting. This, in my opinion, is the only really sound, valid, and worthwhile procedure in the case of ABSMS. The idea is simply to overcome the creatures' natural caution (by one set of procedures) and then raise their curiosity (by another set) and finally "let them have it" when they overcome their caution and got used to browsing around. How you kill the specimen is of not import but once one shows itself in daylight or in artificial light, let him have it with everything you have available, going for the legs first to prevent its escape.
In the case of ABSMS, it seems to me, that everything is useless unless and until "baiting" in its widest sense and most technical meaning has been put into operation. Once "baited" even some other of the approaches outlined above might become effective, but until and unless you can attract the creatures, you're sunk.
Baiting.
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This does not mean simply putting out bait to attract animals. It is almost a science in itself in fact, it is a science and a very extensive and complex one (vide: a most extremely good article by one Fred Bruemmer in, of all publications, CAVALIER for July, 1961 entitled "Killer King of the Rat Catchers". So important is this article that I am appending a photocopy as an appexdix to this paper). And do

not forget that rats, while almost as intelligent as men and having far better genetic instincts are still far, far behind the instinctual-intellectual abilities of an ABSM.
Professional "Baiting" entails several separate operations. These are in substance:
(1) Preparation, before entering the field.
The more
of these suggestions that can be followed the better and the easier it will be for all concerned, and the faster and more efficiently will the desired results be achieved. However not all of them can always (and sometimes none at all) be achieved. Yet, every point so taken care of, adds immeasurably to proven successes. I will describe the ideal, and leave it to you to do the best you can. It falls under three heads:

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Such,
(1) Personnel. Nobody should "take a bath" for at least a month before going into the field. This does not mean that bathing is disallowed, but first and foremost no soap, detergent, or anything else should be used on the skin and especially on head hair. remove the natural oils which protect us from funguses and other parasites, and deter blood-sucking insects lice, fleas, bugs, etc.)
from biting. (It is dirty clothes that encourage ticks,
A thorough physical exam-
ination should be made medically before leaving, and all medicaments should be closely sealed into a container that has been sterilized, and externally immunized by rubbing with animal grease. (Wooden boxes are preferable, with tarred-canvas hinges). If you
pure grease.
feel "dirty", wash with mud and/or some animal fat or dry Bicarbonate of Soda.
Wash teeth with tablesalt, or better,
(ii) Clothing. Also all personal effects. Try to eliminate all metal, artificial rubber, and artificial fabric such as nylon, dachron, etc. Anchor everything in running freshwater for at least 12 hours%3B then dry over a wood fire%3B do not "iron" Most thermoplastics are inert and odorless and may be used but leathers preferable.
(especially well greased with animal fats) are always
Natural rubber is ok if thoroughly
soaked and all surface dye removed.
(iii) Equipment. As far as possible, eliminate all metal. That which cannot be so disposed of or for which non-mental substitutes cannot be found, should

in all cases be wrapped, encased, or sealed in leather that has been well greased with animal oils. Avoid above all, all mineral oils, even kerosene. Electric battery lights, even if heavier, are better than kerosene lamps, but must be again greased and packed in animal oil-soaked wrappings. Aluminum is far better even when corroded.
than iron, as it does not have anything like the odor
(We once even used earthenware
cooking utensils, wooden spoons, and flint knives for a trial and obtained quite noticeable results). That metal which you do take, ought to be brazed and then buried in damp earth, and finally scoured with sand. The objective is to get rid of as much metal as possible and all mineral oils. Even belt-buckles, cigarette difference.
lighters, and other such small items can make a great
Machetes, guns, lamps, and so forth have
to be of metal but leather coverings, wooden boxes,

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and animal oils in most part counter-act their odor. (Metal, apart from some native gold and copper is not known in Nature and it has a stronger odor to animals it.)
than anything else, although we cannot even detect
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(2) Camp Site. It may sound somewhat illogical but it has to be said that this is almost invariably in great part "instinctive" whatever that may mean. The site must of course be as near to good water as possible but, apart from that, you have to follow your senses. Some sites just "look good", others don't; and in a high percentage of cases of the former you will find that they look good also to animals. The invariable clue to this latter is whether there is an abundant small fauna of insects, snails, frogs, etc. If these are numerous, you may be sure that the smaller, medium-sized, and finally the larger animals will be around.
I can offer only two other suggestions anent this. The first is that the camp should be in a depression and as far as possible surrounded by high land and thus protected from all winds. Amateurs, and especially hunters and White Men in particular have a mania for "sunlight, air, a breeze, and a view".
All are
redundant, useless, and actually a deterrent to both Baiting and Hunting since they cloy the senses. You can sometimes hear a twig snap in a hollow when there

is half a gale blowing above the surrounding hills.
Secondly, the location should be as thickly covered with foliage as possible and have as much ground-brush as possible all around. This latter can be cleared back, and then paths cut through it but all of these should have an initial "S"-Bend in them, so that animals can come up real close without being observed, and watch you.
(3) Behaviour, at camp, for at least the initial two weeks should be extremely free and easy. You can make as much noise as you like, even to playing a radio or phonograph, smoke, and above all cook on wood. Don't go out of camp for the first few days and try to confine speech to talking, not either shouting or above all whispering. The last carries much farther than talking and, being of higher frequency, is more disturbing to animals.
Urinate and defecate freely and widely all around the camp on open ground; and brush teeth, and throw out slops widely (but don't use soap of any kind.) Above all, throw all table scraps and garbage (other than paper and artificial dejecta) all around and as widely as possible.

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dawn and dusk.
After a few days, you may start wandering off, moving very slowly (i.e. "drifting") from the camp at
As far as possible refrain from chop-
bases of big trees
ping wood and, if you must, try and avoid hitting the
we often cannot hear them do so.
they ring like drums although
Change clothing as
then dry over wood fires.
you want but soak them in running water, bury, and
--
(4) Baiting. After about a week you may start your professional baiting as an extension to your garbage and other more personal disposal. Dot this about in obvious places, on the ground, a few feet up tree trunks, and especially on rocks alongside the stream or river. Inspect each bait casually twice a day and note any
may be cleared).
footprints around where it was placed -- (such areas
Small animals will invariably take
all bait in due course but if larger ones are about
visual evidence.
they will almost invariably leave tracks or other
At this point such devices as trip-wires, with or

without set cameras attached, snooperscopes, buzzers, flashlights, and so forth may be mounted but the most extreme care must be taken in doing this. Again, it is the metal that will cause you the greatest trouble. Also, if any of these devices is "tripped" you may set yourself back to the beginning, or the quarry may leave the district altogether. Such mechanical devices can be very alarming to wild creatures: other hand, they may totally ignore them. on the

As is stressed in the article on rats attached, the most important of all baits is (or are) items that have a sexual attraction to the creatures desired. It has now been discovered that our, and animals' sense of smell is the most powerful that we have, and that "sex" is based on smell.

"Attraction-Bait"

Thus, probably the best female ABSM. would be the menstrual flow of a The next best might be that of a woman.

Candies made in Germany that incorporated the saliva, armpit secretions, and sperm or vaginal fluids of college students. young men and girl volunteers were fed unknowingly to Within hours almost all the eaters had somehow sought out the donors of these body essences and were in bed with them, though they did not know of their actions. their existence previously, and could not explain be obtained. If

Some such "essences' should above all

Once these attraction baits have been placed about, desirable foods should be added to them. For some extraordinary reason, there are a few items (some of them more or less inedible to us, or at least tasteless) that hardly any living creature can resist.

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Among these are:
Over-ripe melon rinds
Fresh, coconut pith
Whale-oil Candlewax
Monkey-fat
Rotten bacon rubbed with Fennel
Catnip
Chicken guts
The little round red West Indian Bird-Peppers.

Why any of this should be, nobody has so far satisfactorily explained but almost all successful trapping has been achieved with one or other of these and mostly coconut.
Bananas are also apparently very attractive, especially outside the tropics.
In all cases you should break and bite into the bait yourself and then scatter the rest around as if abandoning it. This will get the animal used to your smell and may also do something else.
This is very important.
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The Gypsies have always trained all manner of animals by spitting in their mouths and making them swallow it. I have myself and innumerable other animal people have also used this method and it seems never to fail, even for or with wild and apparently intractable animals. It is my personal belief that it is an extension of the "kissing" bit in our sexual play, and the transference of chemicals from one body to another that plays such a large part in "sex" as we call it. (Do not forget that copulation is not primarily for the purpose of procreation, but for such an interchange.) The process is intra-specific as well as inter-sexual.
If,
(5) The Kill. If and when the baiting is successful, a clean kill must be made. If this fails, all other specimens will probably take off for the hills.
however, a specimen is killed (or stunned) instantly, it is a very curious fact that not only its mate and family may come around and hang around for a long time but that others may appear that have not been seen before, or even been in that vicinity before. It would seem, in fact, that as with Weasels and some other animals investigated, what we may call "funeral rights"
are actually de rigure among animals. Death rather than alarming the others, seems in a strange way to attract them, provided they are not themselves alarmed.
If the killing is messy, or an animal is wounded, you should look out for an attack, at least from its mate. The Primates can be extremely vicious in this, and most persistent. And don't forget that Primates have brains like us and that an ABSM probably is one of us.

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A Note on Guns.
Among "sportsmen" and professional hunters the world over,
there is a great preference for, and almost 'holy' belief in,
and for collectors they are almost useless.
rifles. They are most inefficient and dangerous mechanisms,
A rifle, and especially a high-powered one, fired at too
close range will drive its solid bullet right through even a
large animal without doing the slightest harm. (Explosive-
bits.)
nosed bullets are both illegal and useless because they simply
blow the thing to bits, and the bigger it is, the smaller the
A rifle is also unwieldy in a forest or any other
because of sighting.
confined space, and actually it is rather slow of operation,
A Submachinegun is very effective especially if it has a
short barrel and a large carbine. With it you can chop down
the biggest target and then administer a decent Coupe de Grace.
But, the very best weapon to carry
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and at all times is
a 12-Bore (or Gauge), double-barrelled shotgun. Repeaters,
or pumpguns are, frankly, not yet sufficiently perfected to be
reliable at all times in damp forest conditions. One barrel
should be highly choked.
The Cartridges carried should have an extra-heavy charge of
smokeless (not Black) powder, and contain ball-shot. This is
the largest size lead balls that can be fitted into a standard
12-bore cartridge. With an extra-heavy charge, only about three
can be so fitted. This carries a terrific hitting power, and
will bowl over a charging buffalo and blow the front of its
head in at about twenty paces. No bullet from a rifle can do
this. Also it kills.
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Apart from this, an automatic side-arm should be carried for
protection
and this is better on the front of the left hip
if you are right-handed and a machete in a leather scabbard
behind the left hip. Spare cartridges should be in the right
trouser pocket.
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For God's sake, don't ever wear a jacket, or anything that
hangs outside your belt and which may therefore snag your
hands in reaching for amunition, side-arm, or machete. Your
life depends on this.
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Any knapsack should be anchored to your midback so that it
cannot possibly slew around whatever movement you make. It
and first-aid kit.
should contain matches, knife, a small lense, plastic tubes,

Forest "hunting" is not like that in any other country and
bring a gun around.
very often you cannot even turn around if attacked, let alone
You will need your sidearm and machete
for in fighting and protection if attacked; though, an attack
from a mere animal is really not known it is all tripe
written for thriller magazines. It is men and Humanoids that
that you will be hunting.
you have to look out for; and it is Humanoids or even Hominids
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---(ends)--
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